



BOROUGH OF BATLEY.

REPORT
ON THE
HEALTH OF THE BOROUGH
DURING 1908.

INCLUDING :

The REPORT on the MEDICAL INSPECTION
OF CHILDREN
IN THE ELEMENTARY SCHOOLS,

BY

J. M. CLEMENTS, M.D., D.P.H.

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MEDICAL OFFICER TO THE EDUCATION COMMITTEE.

BATLEY :

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BOROUGH OF BATLEY.

1908.

SANITARY COMMITTEE.

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Chairman: ALDERMAN G. HIRST.

Vice-Chairman: ALDERMAN B. TURNER.

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OFFICIALS OF THE HEALTH DEPARTMENT.

<i>Medical Officer of Health</i>	-	J. M. CLEMENTS, M.D., D.P.H.
<i>Clerk</i>	-	- T. BENSON.
<i>Chief Sanitary Inspector</i>	-	- J. LINDLEY.
<i>Assistant Sanitary Inspector</i>	-	- G. MILNER.
<i>Health Visitor</i>	-	- MISS TERRY.
<i>School Nurse</i>	-	- MISS WILLIAMS.

TO THE CHAIRMAN AND MEMBERS OF THE SANITARY COMMITTEE.

Sirs,

I have the honour to present to you my first Annual Report on the health and sanitary condition of the Borough of Batley.

The report is for the whole of the year 1908, during the early part of which the duties of Medical Officer were carried out by Dr. J. A. Erskine Stuart, who continued in office until my appointment in the month of August. I am much indebted to Dr. Stuart for the valuable records and reports which he has handed over to my care, and also for much friendly advice and assistance.

As I have only been a few months in Batley and have, therefore, but a limited experience of the sanitary circumstances of the Borough, I shall confine myself in this report to tabulating the work that has been done during the year and discuss only those conditions which are of some urgency, and to which I feel justified in referring.

From a statistical point of view the year 1908, when compared with previous years is a very satisfactory one. There is a considerable increase in the birth-rate, the rate for 1908 being 27·0, as compared with 23·8 for 1907; along with this high birth-rate there is a substantial reduction in the death-rate, the rate for the year being 17·8, as compared with 19·1 for 1907.

The *zymotic-rate* is 2·5, as compared with 3·0 for the previous 10 years, and the *infantile mortality* figure is 162, as compared with 180 for the preceeding 10 years.

The mortality rates to which I would direct attention are those of Diarrhœa and Typhoid Fever. I have dealt with the conditions affecting these diseases at some length, and I have pointed out that the deaths from Diarrhœa are largely responsible for our high zymotic and infantile rates.

During the year additional work of an important nature, and which is likely to have a far-reaching effect on the public health of the future, has been undertaken by the Health Department. I refer to the systematic medical inspection of school children under the provisions of the Education Act 1907. A detailed account of this work will be found in the appendix to this report.

In carrying out the inspections a large amount of information was obtained relating to the existence of illness in the family, overcrowding, and the general sanitary conditions of the homes. The information so derived will be of great value to the Health Department, and is a strong argument in favour of medical inspection being performed by the Medical Officer of Health, or in close association with his department.

The Notification of Births Act was adopted in the month of February and towards the end of the year arrangements were made for the Voluntary Notification of Phthisis. The adoption of the Sanitary clauses in the Public Health Acts Amendment Act 1907, is at present receiving your consideration.

In order to cope with the increased work of the Department, 1 Clerk, 1 School Nurse, and 1 Health Visitor have been appointed, and additional office accommodation has been provided. The alterations to the latter are now almost complete, and our work should be greatly facilitated by all the staff being in one building.

In conclusion I wish to express my deep appreciation of the cordial support I have obtained at all times from the Members of the Sanitary Committee especially in consideration of the changes which have taken place in the work of the Department.

I have also to thank my colleagues and staff of the Health Department for the assistance they have given me during the year.

I am, Gentlemen,

Your obedient Servant,

J. M. CLEMENTS.

SUMMARY OF STATISTICS, 1908.

Population (estimated to middle of 1908) ...	(Males 14,844) (Females 16,876) }	31·729
Area of Borough (in acres)		2·039
Density of Population (i.e., number of persons per acre) ...		15·5
Number of Houses in occupation		7702
do. not in occupation		435
Estimated average number of persons per house		4·1
Number of Births	(Males 447) (Females 412) }	859
Birth-rate per 1,000 living		27·0
Number of Deaths	(Males 286) (Females 279) }	565
Death-rate per 1,000 living		17·8
Death-rate from seven Zymotic Diseases per 1,000 living...		2·5
Phthisis Death-rate per 1,000 living...		1·0
Death-rate per 1,000 from other forms of Tuberculosis ...		0·69
Death-rate from all forms of Tubercular Diseases, including Phthisis		1·7
Death-rate from Diseases of Respiratory Organs other than Tuberculosis		2·9
Infantile Mortality, i.e., death-rate of Children under 1 year per 1,000 births		161·8

POPULATION.

The Registrar-General estimated the population at the middle of 1908 to be 31,720. This estimate is based on the assumption that the population is increasing at the same rate as between the census years 1891 and 1901. I have estimated the population of the three wards into which the Borough is divided as follows :—

Ward.	Population 1901 Census.	Estimated population middle of 1908.
East	11,855	12,401
North	10,853	11,354
West	7,613	7,965
Whole Borough.	30,321	31,720

In the following table I have arranged the population as given at the 1901 census according to age-group and sex, and I have compared the proportion of the population per cent. at the various age-groups with that of England and Wales.

Age periods	Borough of Batley. Census 1901.						England and Wales. Census 1901.		
	Numbers.			Percentages.			Percentages.		
	persons	males	females	males	fe- males	total	males	females	total
0—5	3359	1625	1734	5.4	5.7	11.1	5.70	5.72	11.42
5—10	2815	1392	1423	4.6	4.7	9.3	5.35	5.37	10.72
10—15	2801	1347	1454	4.4	4.8	9.2	5.14	5.14	10.28
15—20	2900	1323	1577	4.4	5.2	9.6	4.94	5.04	9.98
20—25	3069	1420	1649	4.7	5.4	10.1	4.53	5.07	9.60
25—35	5563	2535	3028	8.3	10.0	18.3	7.64	8.52	16.16
35—45	4030	1854	2176	6.1	7.2	13.3	5.94	6.35	12.29
45—55	2909	1340	1569	4.4	5.2	9.6	4.29	4.63	8.92
55—65	1901	871	1030	2.9	3.4	6.3	2.79	3.18	5.97
65—75	739	316	423	1.0	1.4	2.4	1.47	1.84	3.31
75 & over	235	102	133	0.3	0.5	0.8	0.56	0.79	1.35
Total	30321	14125	16196	46.5	53.5	100.0	48.35	51.65	100.0

On comparing the proportion per cent. at the various age-groups with England and Wales, it will be observed that the percentage in Batley under age 20, and over age 65, is smaller than in England and Wales, while between the ages of 20 and 65 the proportion is considerably higher in Batley, and this applies to both sexes.

The cause of this difference is revealed by referring to the age-groups. From this it is apparent that there is a great increase due to immigration, at the working ages, first noticeable in the 15 to 20 group, and more pronounced in the 20 to 25 group.

The smaller proportion in the earlier years is not due to a lower Birth-rate in Batley; it is due to the higher mortality that occurs in early life in Batley than in England and Wales.

It will also be observed that this immigration commences at an earlier age in females than in males.

The sudden drop in the proportion after the 65 age-period appears to indicate that a considerable number of people emigrate to other places after the working ages.

OCCUPATIONS.—Batley is entirely an industrial community, the staple trades being the heavy woolen industry and the rag trade in its various branches. Coal and shale mining, and ironworks also provide occupation for a considerable number.

At the 1901 census, out of 9,760 occupied males in the Borough 2,863 were engaged in wool and worsted manufacture, and 1,527 in coal and shale mining. Of females engaged in occupations 3,795 were unmarried, and 1,546 were married or widowed; that is to say, 21·4 per cent. of the women engaged in occupations are married or widowed.

3,672 females were engaged in wool and worsted manufactures.

DENSITY OF POPULATION.—The density of the population at the 1901 census was 14·8 persons per acre, and the density estimated at the middle of 1908 is 15·5.

The density varies considerably in the three wards and at different parts of the same ward, being 10·4 persons per acre in the North Ward, 13·1 in the West Ward, and 35·4 in the East Ward.

In parts of the North and West Wards the houses are scattered, and large open spaces exist.

With the exception of one or two small areas, especially one in the East Ward at Batley Carr, and an area lying between East Street and Providence Street in the North Ward, the crowding of houses upon the land cannot be said to exist.

The number of persons per inhabited house estimated to the middle of 1908 is 4.1 per house

The following is the number of occupied houses and the number of houses built during the year:—

Number of houses occupied	...	7702
do. unoccupied	...	435
Number of new houses built	...	83

BIRTHS.

During the year ending 31st December, 1908, there were 854 births, 447 males and 412 females, a number exceeding that for the year 1907 by 106.

This gives a Birth-rate of 27.0, as against 23.8 for 1907; the average rate for the ten years, 1898 to 1907, was 27.6.

While the rate is fractionally smaller than the average for the past ten years, it is gratifying to have to record a marked increase on the very low rate of last year.

The Birth-rates for England and Wales and the larger and smaller towns for the year 1908 are as follows:—

England and Wales	...	...	26.5 per 1,000 of the population
76 Great Towns	...	...	27.0 do.
142 Smaller Towns	...	...	26.0 do.
England and Wales less the			
218 Towns	...	...	26.2 do.
Batley	...	...	27.0 do

STILL BIRTHS.—33 still-born children were buried in the Cemetery during the year, but this number does not represent the total number of still-births occurring within the Borough.

At present still-births are not registered, and their omission from the birth returns seriously under-estimates the fertility of the population.

Under the Notification of Births Act the Health Department will receive more accurate returns regarding the number of still-births; since the Act was adopted in February, 32 still-births have been notified

ILLEGITIMATE BIRTHS.—28 illegitimate births were registered during the year, the percentage of illegitimate to legitimate births being 3·2.

The following table classifies the births according to the districts in which they occurred :—

Ward	Legitimate.			Illegitimate			Total			Birth Rate per 1,000	Percentage of Illegitimate Births
	M.	F.	Total	M.	F.	Total	M.	F.	T.		
North	162	149	311	5	4	9	166	154	320	28.1	2.8
West	102	106	208	7	1	8	109	107	216	27.1	3.7
East	164	148	312	8	3	11	172	151	323	26.0	3.4

The mortality among illegitimate infants was, as usual, much greater than among the legitimate, the respective figures being 161·8 and 285·7 per 1,000 of each class born.

DEATHS.

536 deaths were registered in the Borough during the year. Eight of these deaths were of persons belonging to other districts who died in the Batley and District Hospital, and particulars of age, residence, etc., relating to them have been forwarded to the Authorities of their respective localities.

37 deaths of Batley residents have been reported to us as having occurred outside the district, as follows :—

Dewsbury Union Workhouse	...	...	25 deaths.
Leeds General Infirmary	...	...	4 do.
West Riding Asylum	...	...	6 do.
Oakwell Joint Hospital	...	...	2 do.

The total number of deaths of Batley residents which occurred during the year is 565.

The crude death-rate, the nett death-rate, the corrected death-rate, and the comparative mortality figure for the year 1908 are as follows :—

Crude death-rate ...	...	...	16·9	per 1,000 living.
Nett death-rate ...	...	...	17·8	do.
Corrected death-rate ...	...	...	19·3	do.
Comparative mortality figure	...	...	1314	do.

The “ Crude death-rate ” is the proportion per 1,000 living of all the deaths registered in the Borough, including non-residents.

The “ Nett death-rate ” is the proportion per 1,000 living of the deaths of inhabitants of the Borough only. It is thus the true death-rate of the Borough.

The “ Corrected death-rate ” is the death-rate per 1,000 living corrected for age and sex constitution of the population.

Taking into consideration the age and sex constitution of the population of the Borough as compared with England and Wales, it is necessary, in making comparisons with the death-rate for England and Wales and other towns, that a correction should be made. The Registrar-General has prepared a “ factor for correction ” for the large and smaller towns, and he has furnished me with the “ factor for correction ” for Batley. On multiplying the nett death-rate by this “ factor ” we obtain the “ corrected death-rate for the Borough.”

The “ Comparative mortality figure ” may be expressed by saying that after correction has been made for differences of age and sex constitution, the number of people who gave a 1,000 deaths in England and Wales gave 1314 in Batley.

The distribution of the deaths during the year in months and quarters was as follows :—

	Persons	Males	Females	% of Total Deaths	WARDS		
					North	West	East
January	54	28	26	9.56	26	12	16
February	59	35	24	10.44	29	14	16
March	55	15	40	9.73	26	14	15
April	41	14	27	7.26	18	12	11
May	36	20	16	6.37	15	8	13
June	30	18	12	5.31	16	3	11
July	37	18	19	6.55	14	10	13
August	39	21	18	6.90	10	13	16
September	47	22	25	8.32	19	7	21
October	69	39	30	12.21	24	21	24
November	43	21	22	7.61	13	18	12
December	55	35	20	9.74	24	12	19
1st Quarter	168	78	90	29.73	81	40	47
2nd „	107	52	55	18.94	49	23	35
3rd „	123	61	62	21.77	43	30	50
4th „	167	95	72	29.56	61	51	55
Total 1908	565	286	279	100.0	234	144	187

It will be observed that the largest number of deaths occurred in the month of October, the high mortality during this month was due to the large number of infants who succumbed to Epidemic Diarrhœa

DISTRIBUTION OF THE DEATHS IN THE WARDS.

	Male	Female	Total	Death Rate per 1000 living
North	129	105	234	20.6
West	73	71	144	18.0
East	84	103	187	15.0
Whole Borough	286	279	565	17.8

The high death-rate in the North Ward is due to 1 or 2 congested areas where the sanitary conditions are worse than in the remaining parts of the town, and where preventible diseases, such as Diarrhœa and Typhoid are especially prevalent. Half the total deaths from Diarrhœa occurred in this ward.

CANCER AND OTHER MALIGNANT DISEASE.—43 deaths occurred during the year from Cancer—16 males and 27 females. The ages at death were as follows :—

25-35.	35-45.	45-55.	55-65.	65-75.	75-85.
1	4	13	10	12	3

The deaths from this cause since the year 1900 are as follows :—

Year.	Deaths.	Year.	Deaths.
1900	22	1905	27
1901	27	1906	29
1902	24	1907	33
1903	26	1908	43
1904	24		

The increase in the number of deaths under the heading of Cancer and Malignant Disease is no doubt largely due to more accurate diagnosis and more accuracy in death certification.

In a table in the appendix will be found a classification of the deaths that occurred during the year according to age and cause of death. From this table I extract the following figures, showing the chief causes of death:—

		Males.	Females	Total.
Epidemic Diarrhœa	..	27	21	48
Other Zymotic Diseases	...	15	17	32
Phthisis	...	21	12	33
Other Tubercular Diseases	...	8	13	21
Cancer	...	16	27	43
Bronchitis	...	29	21	50
Pneumonia	...	23	15	38
Disease of Heart & Blood Vessels		40	53	93
Urinary System	...	14	14	28
Nervous System	...	14	12	26
Digestive System	...	9	8	17
Old Age	...	15	13	28

During the year 39 inquests were held on the deaths of residents, as follows:—

ACCIDENTS BY Burns and Scalds	...	...	6
Falling	...	...	4
Injuries at Pit	...	...	1
DEATHS FROM Heart Disease	...	...	14
Convulsions	...	...	4
Pneumonia	...	...	3
Cerebral Hæmorrhage	...	...	2
Other Causes	...	...	4
SUICIDE Hanging	...	...	1

The following Table gives a comparison of the Birth Rate, General, Zymotic, and Infantile Death Rates of Batley, with those of England and Wales as a whole, and also with the larger and smaller towns, for the year 1908.

	Births.	Deaths.	Deaths of Children under 1 year per 1000 births.	Principal Epidemic Diseases, Column 5 to 11.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhœa.	
	1	2	3	4	5	6	7	8	9	10	11	
		Crude	Cor'ec- ted.									
England and Wales. ...	26.5	14.7	14.7	121	1.29	0.00	0.22	0.08	0.15	0.27	0.07	0.50
76 Great Towns ...	27.0	14.9	15.8	128	1.59	0.00	0.31	0.10	0.16	0.29	0.08	0.65
142 Smaller Towns. ...	26.0	14.0	14.7	124	1.26	0.00	0.20	0.06	0.15	0.25	0.08	0.52
England and Wales less the 218 Towns.	26.2	14.7	13.8	110	0.99	0.00	0.13	0.15	0.15	0.25	0.07	0.33
Batley	27.0	17.8	19.3	161.8	2.5	0.00	0.40	0.03	0.12	0.22	0.22	1.70

From this Table it will be seen that the figures for Batley do not compare favourably with those for the rest of the country. The Death Rates for Scarlet Fever, Diphtheria, and Whooping Cough, are lower than those for England and Wales, but the Zymotic, Typhoid, Diarrhoea, and Infantile rates are very much higher. This condition is entirely due to the prevalence of Typhoid and Diarrhoea. If these two causes of death could be eliminated or if the same rate of mortality from them prevailed in Batley as in the rest of the country, a great reduction would take place in these rates.

For instance, had the Diarrhoea Rate in Batley been the same as in England and Wales, the General Death Rate would have been 16.6 instead of 17.8, the Zymotic Rate 1.5 instead of 2.5, and the Infantile Rate would have been reduced from 162 to 130.

INFANTILE MORTALITY.

The term *infantile mortality* is applied to the deaths of children under one year of age, and it is measured by the proportion which the annual number of deaths at this age bears to the births registered during the year. The total number who died under one year of age during 1908 was 139, the infantile mortality is, therefore, equivalent to a rate of 161·8 per 1,000 births.

This rate is a considerable reduction on the average for the past ten years (181), but it is still a very high one, much higher than obtains for the rest of the country generally, as the following figures show :—

	Proportion of deaths under 1 year to 1,000 births.				
England and Wales	121
76 Great Towns	128
142 Smaller Towns	124
England and Wales less the 218 Towns	110
Batley	162

It will be seen from these figures that the rate of infant mortality in Batley is much greater than in England and Wales as a whole, and exceeds the average of the 76 large towns and the 142 smaller towns.

When we proceed further to compare the fatal conditions among the infants in England and Wales and in Batley, we find that the same causes, so far as death certification indicates the cause, are at work in Batley as in the rest of the country, the only difference being one of degree.

The following table gives the cause and age at death of the children under one year who died during 1908 :—

TABLE V.

INFANTILE MORTALITY DURING THE YEAR 1908.

Deaths from stated Causes in Weeks and Months under One Year of Age.

(See Notes at Back of Table IV in Appendix.)

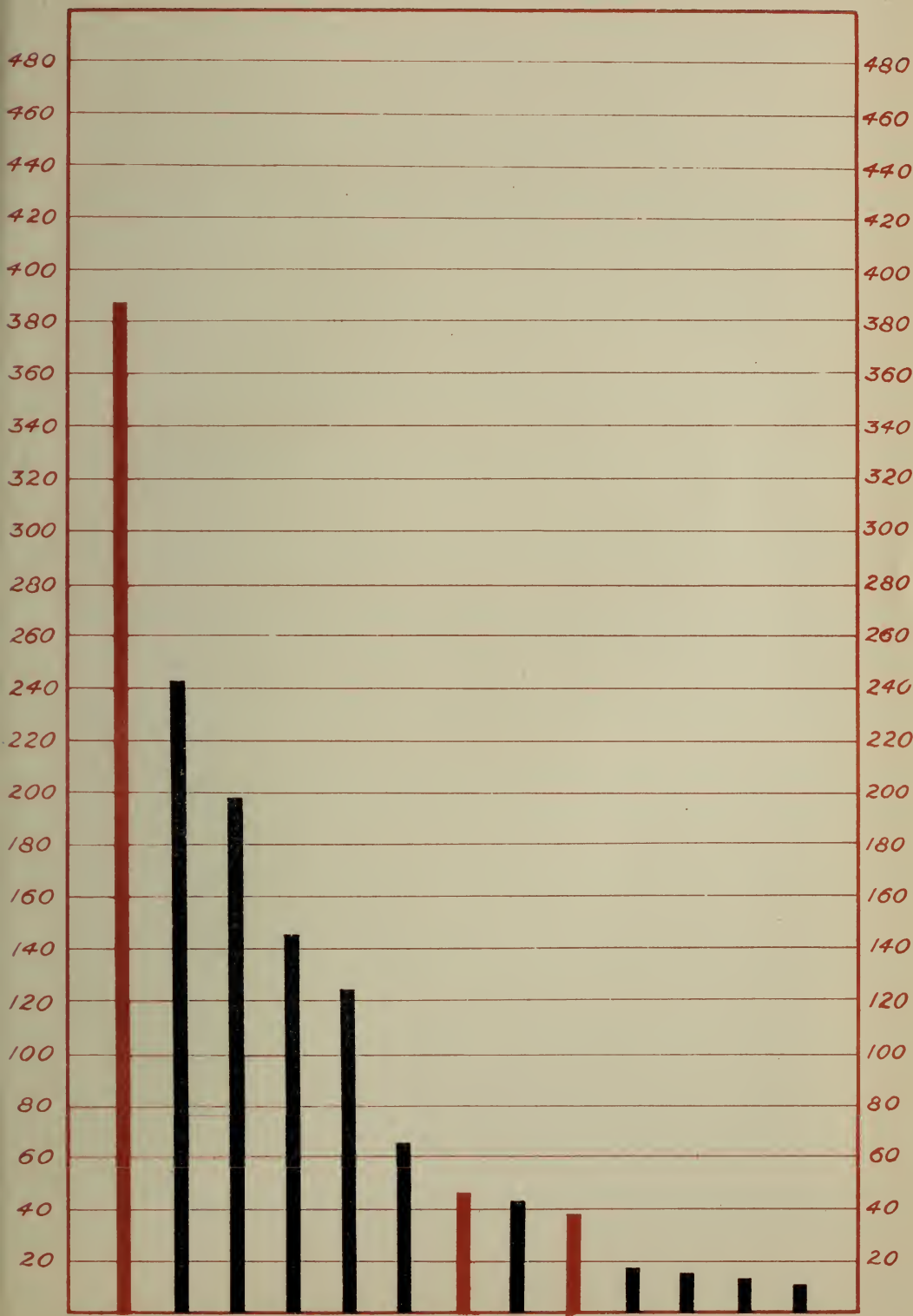
CAUSE OF DEATH.				Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 Month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under 1 year
All Causes	Certified	...	...	28	9	7	3	47	10	12	15	12	6	5	7	3	10	9	3	139
	Uncertified	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
COMMON INFECTIOUS DISEASES.																				
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Chicken-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	3	2	...	6
Scarlet Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous Croup)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Whooping Cough	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	2
DIARRHOEAL DISEASES (<i>See Notes to Table IV.</i>)																				
Diarrhoea, all forms	...	...	...	...	...	...	...	...	3	6	7	8	1	1	6	1	2	1	2	38
Enteritis. Muco-enteritis, Gastro-enteritis	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	...	2
Gastritis, Gastro-intestinal Catarrh	...	...	...	...	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	3
WASTING DISEASES.																				
Premature Birth	...	...	...	...	...	...	...	22	...	...	...	...	...	...	...	...	...	...	...	22
Congenital Defects (<i>See Notes to Table IV.</i>)	...	...	...	...	...	...	...	12	1	...	...	...	...	1	...	...	...	...	...	14
Injury at Birth	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Want of Breast-milk, Starvation	...	...	...	...	...	...	...	...	...	2	1	...	...	...	...	...	...	...	...	3
Atrophy, Debility, Marasmus	...	...	...	...	...	...	...	4	...	3	...	...	...	2	...	...	...	...	...	9
TUBERCULOUS DISEASES.																				
Tuberculous Meningitis (<i>See Notes to Table IV.</i>)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculous Peritonitis: Tabes Mesenterica	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
Other Tuberculous Diseases (<i>See Notes to Table IV.</i>)	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
OTHER CAUSES.																				
Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Syphilis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Rickets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1
Meningitis (<i>not Tuberculous</i>)	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1
Convulsions	...	...	...	...	...	2	...	5	3	...	...	1	...	...	...	...	2	1	1	13
Bronchitis	...	...	...	...	...	...	1	1	1	...	1	1	3	...	...	...	2	1	...	10
Laryngitis	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Pneumonia	...	...	...	...	...	...	...	...	...	1	1	1	...	1	...	1	1	1	...	7
Suffocation, overlying	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other Causes	...	...	...	...	...	1	1	2	...	...	1	...	...	...	...	...	...	2	...	5
				28	9	7	3	47	10	12	15	12	6	5	7	3	10	9	3	139

Borough of Batley.....Population Estimated to middle of 1908.....31,720.

Births in the year { legitimate 831.
illegitimate 28.Deaths in the year of { legitimate infants 131.
illegitimate infants 8.

Deaths from all Causes at all Ages 565.

PRINCIPAL CAUSES OF DEATH UNDER ONE YEAR from 1900-1908 inclusive.



Diarrhoeal Diseases (Diarrhoea, Enteritis & Cholera) Bronchitis & Pneumonia Atrophy, Debility, Marasmus Premature Birth Convulsions Congenital Defects Whooping Cough Tubercular Diseases Measles Meningitis (not tub.) Want of Breast Milk Suffocation Rickets.

We see that the greatest number of deaths is ascribed to the following conditions:—Diarrhoeal Diseases 43, Premature Birth 22, Bronchitis and Pneumonia 17, Marasmus 9, and Congenital Malformations 14.

In order to ascertain if these were prominent causes of death in previous years I have collected in the following table the causes of deaths under one year of age during the years 1900 to 1908 inclusive. The attached chart gives the same information, and shows in a graphic way the relative proportion of each cause.

Table showing the chief causes of death under 1 year of age since 1900.

	1900	1901	1902	1903	1904	1905	1906	1907	1908	Total
Diarrhoeal Diseases (Diarrhoea, Enteritis, Gastritis) ...	23	67	21	26	69	47	61	27	43	384
Atrophy, Debility, Marasmus ...	28	35	31	19	21	12	16	17	9	188
Premature Birth ...	13	20	12	13	20	15	15	14	22	144
Convulsions ...	11	11	14	15	18	10	12	20	13	124
Congenital Malformations ...	5	4	6	9	10	4	2	10	14	64
Measles ...	10	1	8	—	9	1	2	2	6	39
Whooping Cough ...	1	10	2	10	6	4	6	4	2	45
Other Infectious Disease ...	1	—	—	—	1	1	—	—	—	3
Tuberculosis(All forms)	5	4	3	8	4	8	5	2	2	41
Meningitis non- Tubercular ...	1	—	5	—	1	1	5	2	1	16
Overlying ...	1	4	1	1	—	—	—	1	—	8
Bronchitis ...	26	19	20	18	14	18	15	12	10	152
Pneumonia ...	8	5	12	12	12	18	10	5	7	89
Other Causes ...	15	9	13	8	8	12	6	7	10	88
Totals ...	148	189	148	139	193	151	155	123	139	1385

The conspicuous fatal conditions in the above table are Diarrhœal Diseases 384, Bronchitis and Pneumonia 241, Atrophy, Debility, and Marasmus 188, Premature Birth 144, and Convulsions 124.

DIARRHŒA.—The outstanding fatal condition in the above list is Diarrhœa. This disease is dealt with more fully in another part of the report, and it will be sufficient to emphasise here its fatal character among infants. 43 of the 54 deaths due to Diarrhœa during 1908 occurred among children under one year.

Diarrhœa is responsible for considerably more deaths among infants than any other cause, and these deaths are confined almost entirely to hand-fed babies. Only one of the 43 deaths gave a history of being wholly breast-fed, the remainder being fed by bottle or on artificial foods.

Artificially-fed children contract Diarrhœa not so much because of the improper method of feeding, but because the food has become contaminated with the infective agent that causes Diarrhœa. If it were merely due to bottle feeding or to the use of artificial foods Diarrhœa would be prevalent at all seasons.

The figures relating to "method of feeding" in these Diarrhœa cases will be found under "the work of the Health Visitor," they show very clearly the great danger to which hand-fed babies are exposed, and indicate that the only safe way of feeding the baby is by the mother's breast. The mother's milk is never once exposed to the air or to contamination, but passes direct from the site of manufacture in the gland to the baby's stomach.

BRONCHITIS AND PNEUMONIA.—Bronchitis and Pneumonia rank next to Diarrhœa in the list of fatal conditions among infants. To what extent these diseases are primary and due to exposure to cold or insufficient clothing it is not possible to say, probably they are in many cases secondary to such causes as Measles, Whooping Cough, Rickets, or Diarrhœa.

ATROPHY, DEBILITY, AND MARASMUS. — The deaths under this heading represent 13·5 per cent. of the total deaths under

one year. All these terms are more or less meaningless, and do not indicate any exact pathological condition or throw light on the cause of death.

Wasting is probably the prominent, and, perhaps in some cases, the only feature in the clinical history, and it may be difficult in some few cases to interpret more exactly than this the cause of wasting in infancy.

In this connection it is interesting to note that the returns from children's hospitals do not give many deaths under this heading, the presumption being that there is more opportunity in these institutions of coming to an accurate conclusion as to the exact cause of death, and if there is no well-recognised and sufficient cause detected during life a post-mortem examination is made, and the exact condition established.

The use of the term Marasmus or its synonyms in death certification should be avoided, they do not advance our knowledge of the fatal conditions among infants.

Ante-natal causes, and, perhaps improper methods of feeding, are responsible for a number of these deaths, but, until their exact cause is defined, there is some difficulty in devising practical measures to prevent them.

PREMATURE BIRTH. — The deaths assigned to this cause contribute largely to swell our infantile death-rate, they are probably an expression of the conditions under which the expectant mother lives. If the expectant mother is not properly nourished, or if she has to go out to work in the mill during the few months that precede or follow her confinement, it will certainly be reflected in the vitality of her offspring and in the occurrence of premature birth.

It is abundantly evident from the excessive prevalence in industrial centres of Rickets and other diseases of disturbed nutrition that there is something associated with factory and workshop labour which has a very injurious effect on the children; whether these influences are ante-natal or post-natal, and whether they act entirely through one parent, it is difficult at present to say.

There are certain conditions which are obviously wrong and ought to be corrected ; for instance, a married woman should be prevented from working in the mill for the few months preceding child-birth, and during the whole period she is suckling her infant.

That work in the factory both before and after child-birth is a factor of considerable importance in causing our high infantile rate there can be little doubt ; at the 1901 census no less than 21·4 per cent. of the married women went out to work in the mills, and this figure probably under-estimates the proportion of married women at child-bearing ages who go out to work.

The following are some of the agencies relied upon to lessen the infantile mortality in the Borough :—

A Public Health Service was formed in 1906, with the object of enquiring into the causes of death among infants and taking such preventive measures as appeared to be indicated. Voluntary subscriptions were promised for two years, and a fully-trained Health Visitor, to work under the direction of the Medical Officer of Health, was appointed. The period for which the Health Visitor was appointed expires this year, and the Corporation have decided to continue her services.

The Notification of Births Act has been adopted by the Council, and came into operation on the 6th February, 1908. This is a most valuable measure, notification of practically every birth reaching the Health Department within 36 to 48 hours of its occurrence. It has placed the work of the Health Visitor on a satisfactory basis, she is now able to visit immediately after birth and give advice at a time when it is most likely to do good, whereas formerly it was only after the death of the infant that information reached the Health Department.

The following table shows the number of births notified and the person by whom notified:—

(a)	Notified by Doctors	...	...	...	368
(b)	do. Midwives	...	...	...	190
(c)	do. Parents	...	...	...	127
					<hr/>
					685
					<hr/>

In addition to the above, notification was received of 32 still births, of which 19 were by Doctors, 8 by Midwives, and 5 by Parents. During the last quarter of the year practically every birth was notified.

The Health Visitor pays a visit to every birth notified, and the result of enquiries made at this first visit largely determines whether subsequent visits will be made.

WORK OF THE HEALTH VISITOR.

The number of visits made by the Health Visitor during the year is as follows:—

Visits paid to infants	...	...	...	4,202
do. expectant mothers	...	...	...	145
do. cases of consumption	...	...	...	84
do. school children (before school nurse was appointed)	...	...	...	13
Enquiries into cause of death	...	...	...	104
				<hr/>
Total	...	...	...	4,548
				<hr/>

In addition to visiting the homes, the Health Visitor has addressed numbers of women at the various Mothers' Unions and at the Women's Co-operative Guild on the relative value of Foodstuffs, Clothing, Feeding, General Care of Infants, etc.

During the winter months a cooking class was held for poor married women. The Health Visitor gave a course of 25 lessons, and mothers were shown how to cook nourishing dinners in their homes at the smallest possible cost. This class was much appreciated.

Enquiries made into the deaths of the 139 infants under one year elicited the following information, which I submit in tabular form:—

Method of feeding.	Number.
Breast fed	32
Partly breast, partly bottle	24
Wholly on cows' milk	52
Combined foods	5
No food	21
No particulars	5
Total	139

43 babies died from Epidemic Diarrhoea, the method of feeding in these cases was as follows:—

Number breast fed	1
Partly breast, partly bottle	7
Wholly on cows' milk	30
Wholly on artificial foods	5
Total	43

Of the 43 Diarrhoea deaths the mother went out to work in 14 instances, and in the remaining 29 the mother did not go out to work. The above figures show that the great proportion of deaths occur among hand-fed babies, only one of the 43 deaths from Diarrhoea occurring in a wholly breast-fed baby.

It is noteworthy that 116 of the 139 deaths occurred in back-to-back houses (of the 7,312 houses in Batley 3,414 are back-to-back).

NUMBER OF NOTIFICATIONS AND DEATHS SINCE THE YEAR 1890.

	SCARLET FEVER		DIPHTHERIA AND MEMBRANOUS CROUP		ENTERIC AND CONTINUED FEVERS.		SMALL-POX		CHICKEN-POX	MUMPS	MEASLES	WHOOPIING COUGH	DIARRHŒA
	No. of Notifications	Deaths	No. of Notifications	Deaths	No. of Notifications	Deaths	No. of Notifications	Deaths	Deaths	Deaths	Deaths	Deaths	Deaths
1890	74	1	28	4	33	12	0	0	0	0	10	5	33
1891	?	8	?	7	?	17	?	13	—	—	18	7	20
1892	130	16	121	18	33	8	453	49	—	—	4	16	17
1893	95	7	100	13	60	8	14	3	—	—	32	9	77
1894	120	11	83	10	57	11	3	?	—	—	2	5	12
1895	47	0	29	3	47	6	0	0	—	—	0	3	46
1896	127	7	12	0	52	10	0	0	—	—	67	17	19
1897	135	16	20	3	41	10	0	0	—	—	10	18	44
1898	146	10	24	8	111	15	1	0	—	—	13	20	30
1899	64	2	33	7	73	16	1	0	—	—	0	3	53
1900	38	0	23	9	46	11	0	0	—	—	52	8	35
1901	62	1	16	3	53	13	0	0	—	—	4	22	86
1902	21	0	39	6	30	27	10	2	—	—	37	7	20
1903	88	6	51	4	42	8	57	2	—	—	1	18	34
1904	202	14	46	9	104	22	103	6	—	—	32	19	84
1905	233	15	23	3	82	11	21	2	—	—	3	11	55
1906	74	5	18	4	35	3	0	0	—	—	4	18	84
1907	19	2	28	6	22	2	0	0	—	—	7	5	39
1908	48	1	27	5	31	7	0	0	—	—	13	7	52

PART II.—INFECTIOUS DISEASES.

The year 1908 has not been marked by any serious outbreak of infectious disease. 125 notifications were received, as compared with 76 for 1907, of which 48 were Scarlet Fever, 27 Diphtheria, 31 Typhoid, 17 Erysipelas, and 2 Puerperal Fever.

The accompanying table gives the number of notifications and deaths in each year since 1890.

The Zymotic death-rate, or death-rate from the seven principal epidemic diseases, viz., Small Pox, Measles, Scarlet Fever, Whooping Cough, Diphtheria and Membranous Croup, Typhoid Fever, and Diarrhœa, was 2·5 per 1,000 of the population.

The number of deaths from these diseases was as follows:—
Small Pox 0, Scarlet Fever 1, Diphtheria 4, Typhoid 7, Measles 13, Whooping Cough 7, Diarrhœa 48. The high Zymotic rate is mainly due to the large number of deaths from Diarrhœa

ISOLATION HOSPITAL ACCOMMODATION.

The only provision within the Borough for the isolation of cases of infectious disease is the Small Pox Hospital in Smithies Moor Lane. The site is an excellent one for the treatment of infectious disease other than Small Pox, but the wooden structures used as wards are of a very temporary character (they have not been used since November, 1905, when the last case of Small Pox that occurred in the Borough was removed there for isolation).

In 1908 cases of Enteric, Diphtheria, and Scarlet Fever occurring within the Borough and requiring hospital isolation were removed to the Oakwell Joint Hospital by special arrangement with the Hospital Board.

During the year negotiations were commenced for the purpose of including Batley in the Joint Hospital area; these negotiations are

now complete, and have received the sanction of the Local Government Board. The Oakwell Joint Hospital may therefore be regarded as the Isolation Hospital for the Borough.

This Hospital is situated on the "Foxhall Estate," Birstall, and is about three miles from the centre of the Borough of Batley. The site covers eight acres, the buildings are modern, on an approved plan, and consist of three ward pavilions, an administrative block, nurses' home, laundry, disinfecting and discharge blocks, and mortuary.

A hospital for Small Pox has also been erected by the Joint Board, about a $\frac{1}{4}$ mile from the above, consisting of a caretaker's house, one ward pavilion, nurses' quarters, and laundry. I understand that at both these hospitals the adjoining ground could easily be acquired, if necessary, for the purpose of extensions or the erection of temporary buildings. The Joint Hospital Board, as newly constituted, will come into existence in September, 1909, and will consist of thirteen representatives from Batley and eleven from the other constituent authorities.

The following cases were removed to the Oakwell Joint Hospital during the year:—

Typhoid 16, Diphtheria 3, Scarlet Fever 1.

BACTERIOLOGICAL EXAMINATIONS.

The following statement shows the number and results of the bacteriological examinations during the year:—

Disease suspected.	Total number examined.	Result.		
		Positive.	Negative.	Doubtful.
Typhoid	16	12	2	2
Diphtheria	17	7	10	0
Phthisis	3	2	1	0
Totals	36	21	13	2

The bacteriological examinations were made by Dr. Kaye at the County Laboratory, Wakefield, to whom I am much indebted for the facilities he has placed at our disposal for obtaining bacteriological confirmation in suspected cases of infectious illness.

The subject of Bacteriology has made great strides in recent years, and has placed the science of Preventive Medicine on a sound basis. It has thrown much light on the cause of infectious disease, and gives valuable aid in the diagnosis and prevention of these conditions. The information it affords is also of great value in estimating the purity of milk, water, shell-fish, and other food stuffs.

The Sanitary Committee towards the end of the year equipped a small bacteriological laboratory, and much help should be obtained from this addition to the Department.

SCARLET FEVER.

48 cases of Scarlet Fever were notified during the year. The disease was of a mild type, and only one death occurred, a child of three years. The following are the ages of those attacked:—

0-1.	1-2.	2-3.	3-4.	4-5.	5-10.	10-20.
—	—	—	—	—	—	—
0	0	1	2	5	23	12
		20-30.	30-40.	40-50.	50-60.	
		—	—	—	—	
		3	1	0	1	

On referring to the table of notifications since 1900 it will be observed that there has been outbreaks from time to time of a severe type. In 1892 there were 130 cases and 16 deaths, in 1897, 135 cases and 16 deaths, and in 1904, 202 cases and 14 deaths.

While this disease throughout England and Wales does not show much diminution in prevalence there is a marked decrease in its virulence, the case mortality being in many places only 1 per cent. or less.

The 48 cases notified were distributed throughout the year as follows :—

January	February	March	April	May	June
17	3	11	2	3	3
July	August	September	October	November	December
2	1	0	2	2	2

During the first quarter there were 31 cases, and many of these were directly connected with a certain milk supply outside the Borough. The following are the dates of the notification of the cases, and the milk supply of each.

Date of Notification	Sex	Age	Milk Supply	Address	Probable source of Infection.
1 Jan, 08.	F	5	Bradford Rd.	Co-op Farm, Soothill	Milk
1 "	M	9	George Street	"	"
8 "	M	19	Hilberoyd Rd.	"	"
9 "	F	9	Granville Place	"	"
10 "	F	8	Hilberoyd Rd.	Barker, East Bath Street	13, Hilberoyd Road
13 "	M	7	Hume Street	Co-op Farm, Soothill	Milk
17 "	M	6	Queen Street	"	"
17 "	F	9	Peel Street	"	"
18 "	F	3	Town Gate Rd. Healey	Oldroyd, Healey	Heckm'wike
18 "	M	1½	"	"	"
23 "	M	21	Warwick Road	Dixon, B Carr	Clerkin Leeds
23 "	F	15	Queen Street	Co-op Farm, Soothill	Milk
23 "	M	12	"	"	"
23 "	F	13	"	"	"
26 "	F	15	Whitaker St.	"	"
27 "	M	12	Town Gate Rd., Healey	Oldroyd, Healey	19, Town Gate Road, Healy
31 "	M	10	Brownhill Ter.	Co-op Farm, Soothill	Milk
15 Feb. 08.	M	9	Ash Terrace	"	"
16 "	M	56	Purlwell Hall Road	"	"

We see that of nineteen cases notified between 1st January and 16th February fourteen obtained milk from the same farm,

and of the five cases who obtained milk elsewhere, at least two were infected by milk cases in adjacent houses.

I have not been able to obtain all the facts relating to this outbreak of Scarlet Fever; it occurred previous to my appointment as Medical Officer.

It appears that the children at the farm and one of the farm hands were suffering from Scarlet Fever at the time.

This outbreak illustrates the dangers to which the public are exposed from infected milk, and shows the urgent need that exists for further legislation to enable Sanitary Authorities to control and inspect milk sheds situated outside their district, but which supply milk within their area. It should also be made compulsory for all cowkeepers and purveyors of milk residing outside the Borough and supplying milk within the Borough to give immediate notice to the Medical Officer of Health when a case of infectious disease occurs in their home or amongst their employees.

DIPHTHERIA.

27 cases of Diphtheria were notified during the year, and 4 of them died. They were distributed throughout the year as follows:—

January.	February.	March.	April.	May.	June.	July.
2	1	3	2	2	0	3
August.	September.	October.	November.	December.		
0	6	3	2	3		

The following are the ages of those attacked:—

1 to 5.	5-15.	15-25.	25-65.
<hr style="width: 50%; margin: 0 auto;"/> 4	<hr style="width: 50%; margin: 0 auto;"/> 19	<hr style="width: 50%; margin: 0 auto;"/> 2	<hr style="width: 50%; margin: 0 auto;"/> 2

13 occurred in the North, 8 in the East, and 6 in the West Ward.

During the years 1906, 1907, and 1908, the mortality per cent. of Diphtheria has been 22·2, 21·4, and 18·5 respectively. These figures may be regarded as a high rate of mortality in these days of serum treatment, and indicate that antitoxin treatment is not as frequently resorted to as it ought to be, or that it is not used at a sufficiently early stage in the disease to enable it to exert its beneficent influence.

The Corporation have made arrangements for supplying antitoxin free to Medical Practitioners in suitable cases, but during the year no medical man has availed himself of this source of supply.

Three cases were removed to the Oakwell Joint Hospital, the remaining ones were isolated in their own homes.

At the termination of the illness one negative Bacteriological examination of the fauces must be obtained before the house and clothing are disinfected by the Sanitary Authority. I am much indebted to the Doctors in the Borough for the way they have supported me in obtaining Bacteriological confirmation of cases of Diphtheria, and for obtaining a negative result before asking for disinfection.

Three of the cases were detected during the Medical Inspection of school children, all contacts were swabbed in each case and "carrier" cases excluded.

MEASLES.

Measles caused 13 deaths during the year. The following table shows the age, sex, and the locality in which the deaths occurred :—

Age.	Sex.	Month.	Street.	Ward.
9 Months	M	April	New Street	North
3 Years	F	May	East Street	„
2 „	F	„	Henrietta Street	„
2 „	M	„	New Street	„
11 Months	M	„	Hume Street	„
1½ Years	F	„	Hume Street	„
6 Months	F	June	Ambler Street	„
1¼ Years	M	„	Well Lane	„
1½ „	F	„	Tichborne Street	West
9 Months	M	„	North Parade	East
11 „	F	July	Ambler Street	North
9 „	M	August	Brownhill Road	„
1½ Years	F	September	Carlinghow	West

9 of the fatal cases in the North Ward were confined to a small congested and insanitary area about New Street and East Street.

On reviewing the mortality returns for Measles in Batley during the last eighteen or twenty years, it is apparent that the disease behaves here in a similar way to that which characterises it in larger towns, that is to say, an epidemic occurs at intervals of two to four years, the disease disappearing almost entirely in the intervals. Possibly the germ exhausts itself during these epidemics and requires

a period of rest, either as a saprophyte in the soil or in the interior of another host, to recuperate its virulence.

During the years 1900 to 1908, 153 deaths were attributed to Measles, almost as large a number as was caused by Scarlet Fever, Diphtheria, and Typhoid combined. These figures do not indicate that Measles should be regarded in the light way that many of the public look upon the disease. With the exception of Epidemic Diarrhœa it causes more deaths than any other Zymotic disease, and probably the above figures do not represent the total number of deaths due to it. There is reason to believe that some of the deaths returned under Bronchitis and Pneumonia, which are very fatal sequelæ of Measles, are directly due to the toxin of Measles.

Measles is perhaps, with the exception of Small Pox, the most easily communicated of all the infections, the poison of the disease diffuses itself through the air more readily than that of any other infectious disease, and this capacity of the poison to spread, plus the very large proportion of the population who are susceptible to it, confers on Measles the high "epidemic potential" that it possesses.

It is well known that few escape an attack of Measles, and advancing years do not confer immunity to the same extent as in the case of Scarlet Fever and Whooping Cough. In the report on school inspection, the number of children examined who have been attacked by Measles is stated to be over 80 per cent., these figures show how very susceptible children are to this disease, and unprotected adults are probably equally susceptible.

The control of this disease from a Public Health point of view presents certain difficulties not met with in the other infectious diseases. At present it is not compulsorily notifiable by Medical Practitioners, the Sanitary Authority may, therefore, not learn of its existence unless it should attain epidemic proportions; and even if compulsory notification were applicable it is not likely to be attended with the same success as in the case of the other infectious diseases. Measles is most highly infectious in the prodromal stage, a time when it cannot be recognised with certainty, and when the disease has developed to the stage when the rash appears and it can be diagnosed, it has already infected all those contacts who are susceptible to it.

I believe the value of Koplik spots as a guide to early diagnosis and isolation is not fully appreciated ; these spots are often the very first sign of the disease, frequently appearing before redness of the eyes, temperature or sneezing. In institutions it is often possible to prevent a second crop of cases by careful daily inspection of the mouth of contacts, and isolation on the appearance of these spots, which are pathognomonic of the disease. I have not yet had the opportunity of excluding from school on this basis, but I feel sure that examination for Koplik spots will be an important and successful part of the routine in dealing with outbreaks of this disease in schools.

WHOOPING COUGH.

7 deaths were returned as due to this disease during the year, the particulars of these deaths are as follows :—

Age.	Sex.	Month.	Street.	Ward.
2 Years	F	January	North Street	West
3 ,,	F	March	Bank Foot	North
2 ,,	F	,,	Cross Bank Road	,,
4 ,,	F	,,	Brownhill	,,
7 Months	F	April	Villier Street	,,
1½ Years	F	June	East Street	,,
3 Months	M	July	Bunkers Lane	West

It is well known that Whooping Cough is more fatal among female children, and the above table shows that six out of the seven deaths were among females.

The deaths are almost always due to Bronchitis, Pneumonia, or Convulsions, and 75 per cent. occur under two years of age. There is little doubt that bad nursing and exposure considerably increase the mortality.

The liability to take the disease is not so great as in the case of Measles, but in its degree of infectiousness and the extent to which persons are susceptible it ranks second to Measles. In the part of this report dealing with the inspection of school children, it will be found that 36·3 per cent. of those examined had suffered from an attack of Whooping Cough, and that 74·0 per cent. of these contracted the disease before the age for entering school.

In controlling the spread of this disease the same difficulties are met with as in the case of Measles, many of the cases are infants, so that any attempt at hospital isolation would have to include accommodation for the mothers. It is not possible to recognise the disease in the early catarrhal stage, and by the time the characteristic whoop is developed the child has already been infectious for several days.

With a view to checking the spread of infectious disease, and more especially of Measles and Whooping Cough, the following arrangements have been made during the year:—

(1) Head Teachers and School Attendance Officers notify to the Medical Officer of Health any case they believe, or have reason to believe, is suffering from an infectious disease, also any house where infectious disease exists and from which children attend school.

(2) On receipt of notification the School Nurse or some Official of the Health Department visits the house, confirms or corrects the diagnosis, and gives appropriate instructions as regards isolation.

(3) The Head Teacher, Director of Education, and Librarian are notified if the case is an infectious one, and the child must be excluded from school until they receive a further notice stating that the infected house and clothing have been disinfected.

Children from an infected house are excluded from school according to the following rules:—

(a) In the case of Scar'let Fever, Diphtheria, and Measles, all the children who come from the infected house are to be excluded.

(b) In the case of Chicken Pox and Mumps, all children under 7, and those over 7 who have not had the disease, are to be excluded.

(c) In the case of Whooping Cough, only children under 7 who have not had the disease are to be excluded.

This scheme is working admirably, and by means of it the Health Department learns of a large proportion of the cases of non-notifiable infectious disease in the Borough. The scheme involves a great deal of clerical work, and has very largely increased the work of disinfection.

Legal authority is urgently needed for enforcing isolation in the case of Measles and Whooping Cough, and it should be made a punishable offence for anyone in charge of a child suffering from either of these diseases to allow such child to be in a public place, shop, etc., without observing proper precautions against spreading the disease.

TYPHOID FEVER.

31 cases of Typhoid were notified during the year, the attack rate being '97 per 1,000 of the population, as compared with '07 for England and Wales, '08 for the 76 Large Towns, and '08 for the 142 Smaller Towns.

The following table gives particulars of the age, sex, and locality relating to these cases:—

Month.	Age.	Sex.	Ward	Street.
April	24	F.	East	Purlwell Lane
do.	12	F.	do.	Mount Terrace, Warwick Road
May	22	M.	do.	3 Court, Dark Lane
do.	27	M.	North	3 Yard, Bradford Road
June	25	M.	do.	Wilson Bldgs., Bradford Road
July	27	M.	East	Knowles Hill
do.	15	M.	West	Clerk Green Street
do	23	F.	North	Drill Shed Yard
do	39	M.	East	Bk. Brierley Street
August	44	M.	do.	Suffolk Street
do.	18	F.	North	Carlinghow Lane
do.	24	M.	East	Norfolk Street
do.	30	M.	North	1 Yard, East Street
do.	31	F.	East	Eyre Street
September	52	M.	do.	10 Yard, Hilberoyd Street
do.	25	M.	North	Peel Street
do.	25	M.	East	Suffolk Street
October	40	F.	do.	Brown's Terrace
do.	35	M.	do.	Ash Terrace
November	30	M.	North	Cross Bank Road
do	28	F.	do.	do.
do.	3	M.	do.	do.
do	14	M.	East	Field Lane
do	17	M.	North	Bk. Cross Park Street
do.	16	M.	West	Colbeck's Buildings
do	36	M.	do.	Cross Bank Road
do.	12	M.	North	Cobden Street
do.	18	M.	do.	do.
do.	7	F.	do.	do.
December	17	F.	do.	Balk Street
do.	28	M.	West	Chaster Street

The following table shows the incidence of Enteric in the three wards in the undermentioned years:—

Ward.	Census Population.	No. of Inhabited houses.	Number of Invaded Houses.						
			1901	1902	1903	1904	1905	1908	Total.
North	10,853	2,561	27	15	17	25	35	10	129
East	11,855	2,864	8	6	13	45	16	12	100
West	7,613	1,887	13	2	4	7	11	4	41
Totals	30,321	7,312	48	23	34	77	62	26	270

Percentage of house invasions in each ward.

North Ward ...	5·0%	of the houses have been invaded.
East ,, ...	3·5%	do.
West ,, ...	2·2%	do.

During the year 1908 the disease was not confined to any particular part of the town, 14 cases occurring in the North, 13 in the East, and 4 in the West Ward. In 23 instances the case was the only one that occurred in the house; the remaining 8 cases were distributed among three houses as follows:—2 in a house in Suffolk Street, 3 in a house in Cross Bank Road, and 3 in a house in Cobden Street. The second case in the infected house in Suffolk Street occurred one month after the notification of the first case, and there is little doubt that it was infected by the first case. In the other two houses where multiple infection took place the inmates all fell ill about the same time, and were probably infected from some common source.

It may be worthy of note that one of the typhoid cases was employed in dealing with ashpit and other refuse at the Destructor.

In several of the infected houses the yards were unpaved, and there were large foul privy middens with swarms of house flies.

WIDAL'S REACTION.—In 16 cases the blood was examined for Widal's reaction in order to assist in the diagnosis, with the following results:—In 12 cases the reaction was positive, and the subsequent history confirmed this in every case. In 2 cases a "doubtful" reaction was reported, and both cases turned out to be Typhoid. 2 negative results were obtained; 1 of the cases was subsequently diagnosed Typhoid, and the other was believed not to be Typhoid.

A reference to the table of Notifications for the last 18 years will show that the disease is "endemic" in the town, and in certain years, as 1898 and 1904, where favourable seasonal or other conditions have assisted in its spread, it has reached epidemic proportions. A consideration of the possible factors which operate in the spread of Typhoid may throw some light on the cause of the disease in Batley.

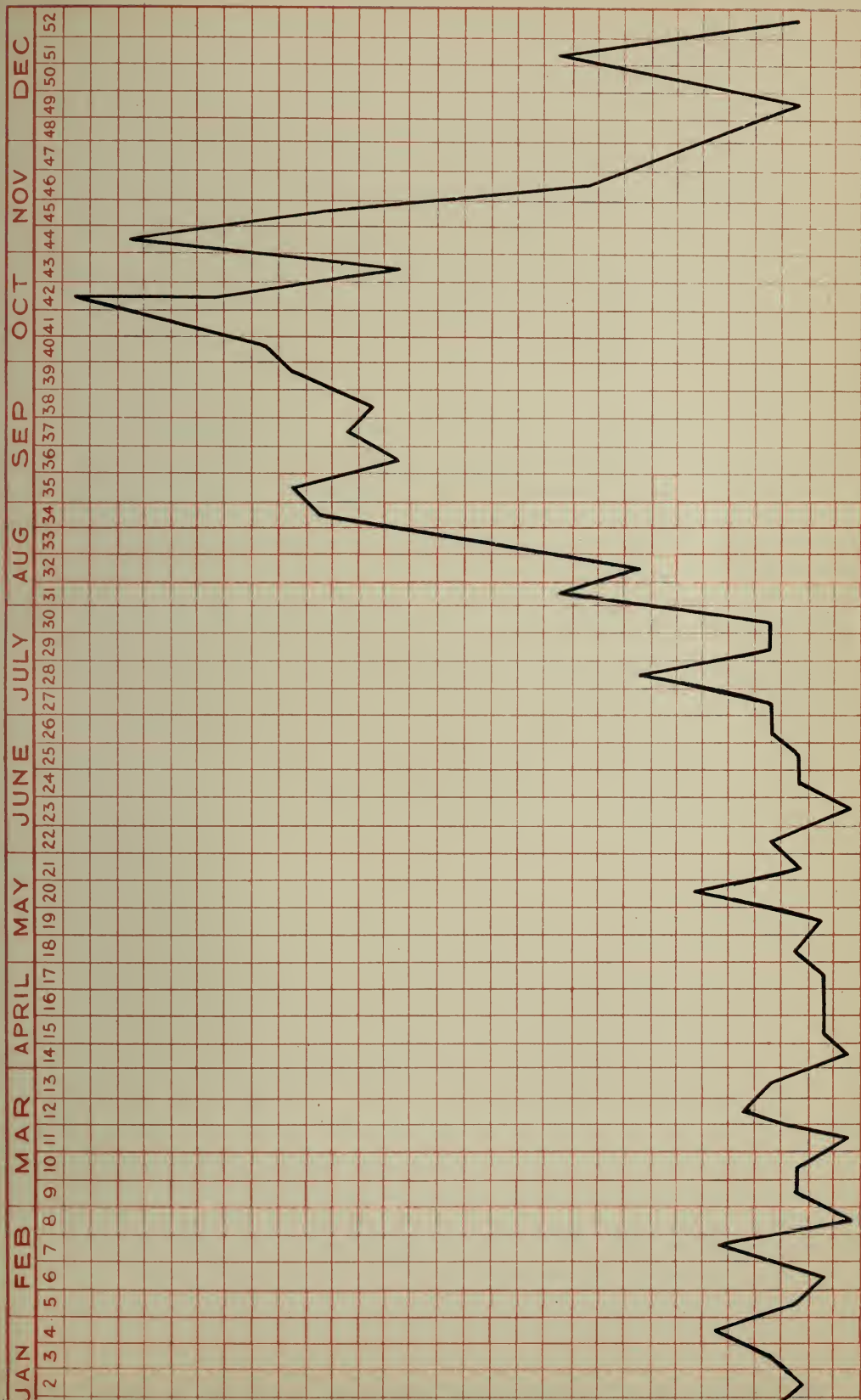
SEASON.—The great majority of the cases occur during the autumn, as the following table indicates:—

1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
January	7 4	April	7 1	July	7 4	October	5 23
„	14 3	„	14 2	„	14 9	„	12 26
„	21 4	„	21 2	„	21 4	„	19 30
„	28 6	„	28 2	„	28 4	„	26 16
F'br'y	4 3	May	5 3	August	4 12	Nov.	2 28
„	11 2	„	12 2	„	11 9	„	9 22
„	18 6	„	19 7	„	18 14	„	16 11
„	25 1	„	26 3	„	25 21	„	23 8
March	4 3	June	2 4	Sept.	1 22	Dec.	1 5
„	11 3	„	9 1	„	8 18	„	8 3
„	18 5	„	16 3	„	15 20	„	15 8
„	25 4	„	23 3	„	22 19	„	22 12
„	31 1	„	30 4	„	29 22	„	29 3
Total	45		37		178		195

I insert a chart, which sets out in graphic form the information contained in the above table. A glance will show the great increase that takes place in the number of notifications during the autumn months.

WATER SUPPLY. — The water supply appears to be above suspicion; there is nothing in the history of the disease during the past eighteen years which would point to infection being carried by the water. The domestic water supply of the town is obtained from the highest of the three reservoirs at Holmfirth, the Yateholme Reservoir, and the gathering grounds are at a higher level than any cultivated land. The catchment area may, therefore, be regarded as free from contamination.

WEEKLY NOTIFICATIONS, ENTERIC, 1900-08 (inclusive).



SHELL-FISH.—It is now well established that shell-fish obtained from sewage contaminated beds are capable of conveying Typhoid Fever, and several outbreaks of the disease in recent years have been traced to this source.

In five of the cases notified during 1908 there was a history of shell-fish having been eaten during the three weeks preceding the onset of illness. Some of these were possibly cases of shell-fish infection—all of them were males.

The possibility of this source of infection is considered in every case, and an effort is being made to ascertain the locality from which all shell-fish sold in the Borough are obtained, and the nature of the beds upon which they are grown. The importance of obtaining shell-fish from clean beds cannot be exaggerated.

The Sanitary Authority of the District from which the shell-fish come should be made responsible for the purity of the beds, and if evidence of sewage contamination exists they should be made liable.

MILK.—The names of the milk dealer and of the farm from which the milk is supplied are obtained in every case of Typhoid, so that any outbreak of the disease among those receiving milk from a particular source would soon be detected. There is no evidence of infection being carried by milk in the years examined.

CARRIER CASES.—It has been known for some time that persons who have suffered from Typhoid Fever may harbour living Typhoid Bacilli for years, and recently it has been demonstrated that the urine and fæces of such persons may contain the bacilli for long periods after an attack of the disease. Several instances where these "carrier" cases have spread infection have been reported during the last 12 or 18 months.

The possibility of such cases existing in Batley has been considered, and the blood of several persons, whose association with patients suggested the possibility of them being carriers, was examined for Widal's reaction, but with negative results.

PRIVY MIDDENS.—In order to ascertain whether Typhoid cases occurred more frequently in houses provided with privy middens or with water closets, I classified the Typhoid notifications from 1900-1908 according to whether the infected house was provided with a water closet or some type of midden. The following table shows the type of sanitary conveniences in the typhoid-infected houses, years 1900 to 1908 inclusive:—

Year.	Water Closet Houses.	Houses with Privy and Ashpit.	Houses with Pail Closets.	Total Number of Cases.
1900	3	42	4	49
1901	11	37	5	53
1902	4	26	1	31
1903	4	37	3	44
1904	19	78	8	105
1905	22	58	4	84
1906	7	29		36
1907	6	16		22
1908	16	15		31
Totals	92	338	25	455

During the period the above table covers it has been estimated that 24·9% of the total houses in the Borough were water closet houses, and 75·1% had some dry method of excrement removal. From the table we ascertain that Typhoid occurred in 17·9% of the water closet houses, and in 82·1% of the houses where dry methods exist.

The comparison is slightly in favour of water closet houses, but in a town like Batley, where houses with water closets and those with dry methods are mixed up indiscriminately, no one method of excrement disposal being confined to a particular district, it is not possible to demonstrate the advantage of the water carriage system, as the inmates of a water closet house might be infected from adjoining privy middens through the agency of flies.

While it is not possible at present to state positively that privy middens are frequent causes of the spread of Typhoid Fever, the more

the question is studied the stronger the conviction becomes that the "midden system" fosters and assists in the spread of this disease. The following are some of the facts which appear to me to point strongly to this conclusion:—

- (a) We know with certainty that the discharges from Typhoid patients contain large numbers of Typhoid bacilli. The privy middens of infected houses must therefore receive the living germs of the disease in greater or less numbers, depending on the stage at which the disease is diagnosed and the precautions taken.
- (b) Professor Delepine, of Manchester, has recovered Typhoid bacilli from an ashpit 12 months after they were deposited there, showing that the bacilli can live in an ashpit for at least a year, and are able to survive the winter.
- (c) The method of cleaning privy middens by throwing their contents unto the surface of unpaved yards or streets must at times result in the surface layers being contaminated with living Typhoid bacilli.
- (d) Dr. Robertson, of Birmingham, has grown Typhoid bacilli from one season to another in the soil of a field.
- (e) Ashpits and privy middens are favourite resorts of the common house-fly, whose legs are admirably constructed for picking up and carrying minute germs like Typhoid bacilli. The path from the ashpit to the kitchen or larder is a well-known one to the house-fly.

The above facts appear to justify the conclusion that Typhoid bacilli are frequently conveyed in the discharges from Typhoid patients to privy middens, and thence to the surface layers of unpaved yards and streets, that they can remain alive in these places for considerable periods, and that with the assistance of wind, dust, flies, or other agencies they are carried to articles of food or drink and thus gain an entry to the bodies of those attacked.

DIARRHŒA.

By "Diarrhœa" is meant the specific infectious disease which appears in epidemic form for a few weeks each year towards the end of the summer. It is a disease which for nine or ten months can scarcely be said to exist, but during a period of six to eight weeks it becomes widespread, especially in certain seasons, and is particularly fatal among infants and young children.

During the year 54 deaths were due to this cause, and for many years it has contributed largely to the death returns, as the following table shows:—

TABLE I.

Year.	No. of deaths due to Diarrhœa.	Number of Deaths due to Diarrhœa.				
		Year.	Males.	Females.	Total.	Under 1 year of age.
1890	33	1900	21	14	35	23
1891	20	1901	43	43	86	67
1892	17	1902	10	12	22	21
1893	77	1903	15	19	34	26
1894	12	1904	43	41	84	69
1895	46	1905	28	27	55	47
1896	19	1906	50	34	84	61
1897	44	1907	21	18	39	27
1898	30	1908	31	23	54	43
1899	53					

It will be observed that there is a great difference in the number of deaths from year to year depending on the extent and severity of the epidemic. It also appears that there are more deaths from 1900 to 1908 than during the preceding ten years. I do not think that this means that Diarrhœa is on the increase, but rather that it is due to a wider application of the term "Diarrhœa," deaths being now returned under this heading which formerly would have been attributed to some other cause.

DIARRHOEAL MORTALITY PER 1,000 POPULATION.

	1902	1903	1904	1905	1906	1907	1908
England and Wales	0.38	0.50	0.86	0.59	0.87	0.29	0.50
76 Great Towns	0.54	0.71	1.20	0.83	1.16	0.40	0.65
142 Smaller Towns	0.35	0.43	1.90	0.57	0.94	0.29	0.52
Rural Districts	0.22	0.31	0.46	0.32	0.52	0.18	...
West Riding of Yorkshire } Urban Districts ... ..	...	...	0.81	0.57	0.92	0.36	...
West Riding of Yorkshire } Rural Districts ... ..	...	...	0.67	0.56	0.86	0.42	...
BATLEY	0.65	1.10	2.71	1.76	2.68	1.23	1.70

The above table shows the rate of mortality per 1,000 of the population in Batley and in other parts of the country. Compared with England and Wales as a whole, the Diarrhoeal rate in Batley is from three to four times as great, and is much greater than the average for the other Urban Districts of the West Riding.

INFLUENCE OF AGE AND SEX.—Table I. gives the number of deaths among males and females and those under 1 year of age since 1900. Of the 493 deaths from 1900 to 1908, 262 were males and 231 females. The mortality is therefore slightly higher among males, and this is more marked in deaths under 1 year of age.

The influence of age is very pronounced, the great proportion of deaths occurring in children under one year of age. Diarrhoea is the most fatal of all diseases among infants in Batley.

While the great proportion of the deaths occur among children it does not follow that the adult population escape the disease. Dr. Peters, of Nottingham, has shown that in certain small areas, where he kept records of all those who suffered from Diarrhoea during the epidemic period, nearly half the population was attacked, including adults and children.

LOCALITY.—On looking over the list of streets in which the 54 deaths occurred in 1908, I find that there are only four in which more than one death occurred, and in no street were there more than two deaths.

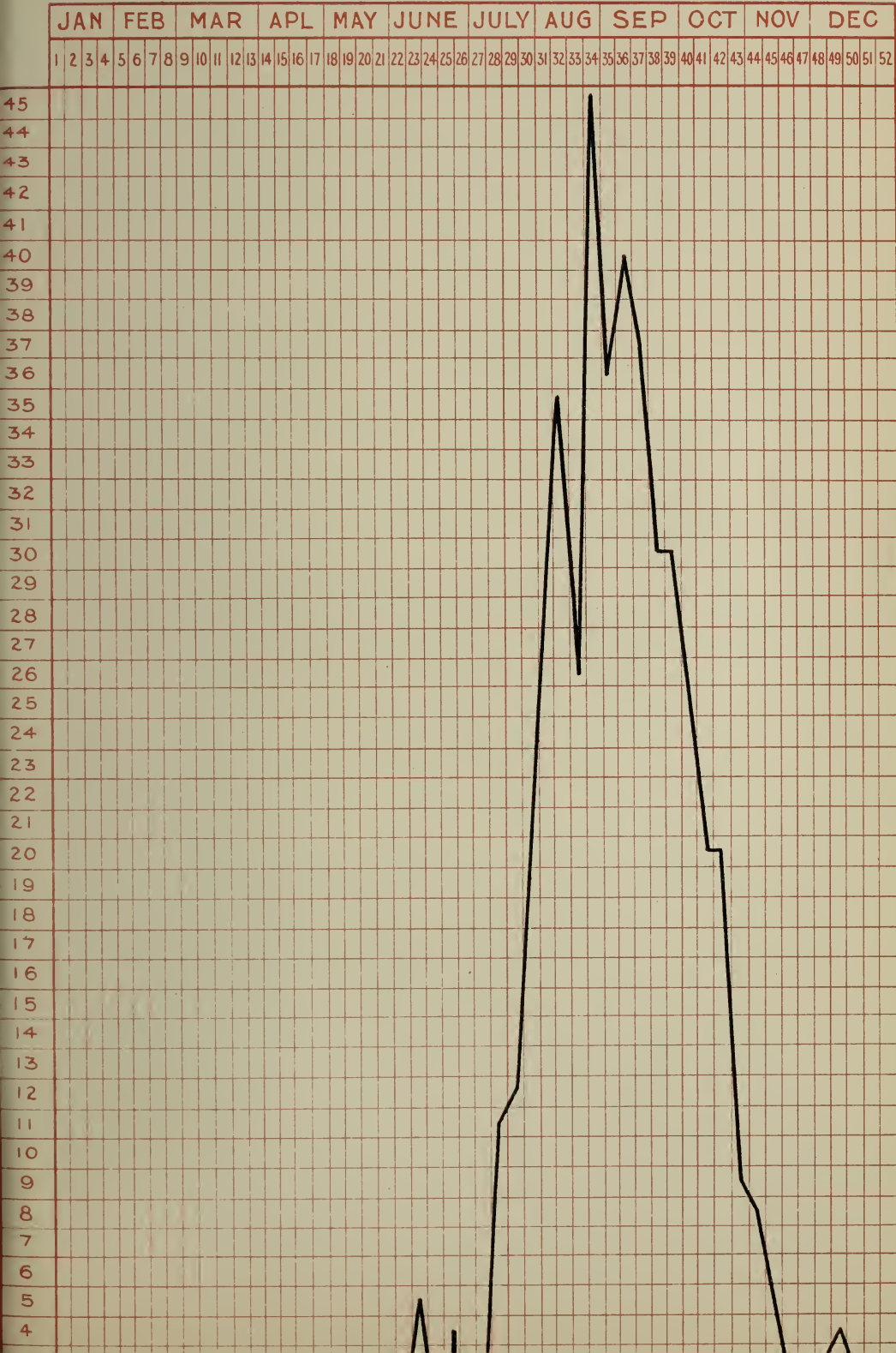
29 deaths occurred in the North, 14 in the East, and 11 in the West Ward. This distribution of the deaths indicates that the disease is not confined to any particular part of the town. The North Ward suffered most severely, and especially the area lying between Providence Street and New Street; this locality, from a sanitary point of view, is the least satisfactory portion of the ward. The streets are narrow, the houses back-to-back, the yards unpaved, and the sanitary conveniences are as a rule privy middens of the worst type.

SEASON.—Practically all the deaths from Diarrhœa occur in the late summer or early autumn, the date of onset of the epidemic period varying from year to year, and depending chiefly on the amount of heat that has taken place. During 1908 the epidemic did not reach its maximum until the middle of October. This postponement was due to the wet and cold that prevailed during August.

The following table gives the deaths from Diarrhœa since 1900, arranged according to the week of the year in which they occurred.

From this table we see that the numbers commence to increase in July, reach a maximum in the last week in August, and then rapidly fall, so that by the end of October the epidemic period is over. The accompanying chart sets out in diagrammatic form this abrupt rise in the weekly number of deaths during the latter part of July and the beginning of August, and the rapid fall during September.

WEEKLY NUMBER OF DIARRHŒA DEATHS
1900-08 (inclusive).



DEATHS, 1900-1908.

1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
January	7	2	April	7	—	July	7	4	October	5	23
„	14	1	„	14	1	„	14	11	„	12	20
„	21	2	„	21	1	„	21	12	„	19	20
„	28	1	„	28	1	„	28	24	„	26	9
F'br'y	4	—	May	5	1	August	4	28	Novr.	2	8
„	11	—	„	12	—	„	11	35	„	9	5
„	18	1	„	19	1	„	18	26	„	16	2
„	25	—	„	26	1	„	25	45	„	23	2
March	4	1	June	2	1	Sept.	1	36	Decr.	1	3
„	11	1	„	9	5	„	8	40	„	8	4
„	18	—	„	16	1	„	15	37	„	15	3
„	25	2	„	23	4	„	22	30	„	22	1
„	31	—	„	30	1	„	29	30	„	29	2
Total...	11		Total...	18		Total...	358		Total...	102	

TEMPERATURE.—It has already been said that the amount of heat there has been during the summer largely determines the date of onset of epidemic Diarrhœa. It has frequently been demonstrated that there is a relationship between the attainment of a certain temperature of the air, and more especially of the 4ft. earth thermometer, and the date of onset of the epidemic period. What the explanation of this relationship may be we do not at present know. It may be that the organism which is believed to produce the disease requires a certain amount of heat to cause it to increase in numbers and in virulence; or, the heat may bring into existence some form of animal life, e.g., flies, which act as “carriers” or as a “host” in which the diarrhoeal organism has to pass a phase of its life before it is capable of attacking human beings.

FOOD.—Articles of food are not of themselves capable of producing the disease, but there is reason to believe that they are frequently contaminated with the infecting agent, which thus gains entry to the body along with the food.

SOIL.—The influence of soil appears to depend on whether it is polluted by sewage or excremental matter. Diarrhœa is prevalent on “made soils” and on ground fouled by organic matter, whether of animal or vegetable origin.

PRIVY MIDDENS. — Privy middens and unpaved yards are closely related to the prevalence of Diarrhœa. As a rule privy midden towns have a high Diarrhœal mortality, and towns with the most effectual scavenging arrangements suffer least from this disease.

It is contrary to all sound hygienic principles to keep a mass of potentially or actively infective matter for weeks at a time close to our larders and living rooms, fouling the air and attracting hosts of flies. Moreover, the dangers are greatly increased at times of removal and cleansing of the middens, when their contents are thrown upon the yard or street, permitting the surface layers of the latter, unless asphalted or paved, to become saturated with excrement, a condition known to favour the occurrence of Diarrhœa.

In order to check the spread of this disease I would recommend that the following preventive measures be adopted:—

- (a) Frequent watering of streets and yards during the months of July, August, and September.
- (b) All collections of house refuse, manure, or any matter which might harbour or act as a breeding ground for the “infecting agent” should be as far as practicable taken to the destructor and burned.
- (c) Privy middens and ashpits should be cleaned at least once a week during the summer months, and liquid disinfectant should be plentifully sprayed around them.
- (d) Back yards and streets should be paved or asphalted.
- (e) All articles of food should be covered during the diarrhœa season.
- (f) Abolition of privy middens and open ashpits.

TUBERCULOSIS.

During the year 54 deaths were registered as due to some form of tuberculosis. The following table gives particulars of the age, sex, locality, &c., of these deaths:—

	Sex.		Ages.															Wards.			Tot'l
	M.	F.	0	1	2	3	4	5	10	15	20	25	35	45	55	65	N	E	W		
			to 1	to 2	to 3	to 4	to 5	to 10	to 15	to 20	to 25	to 35	to 45	to 55	to 65 & up						
Phthisis	...	21	12	1	1	...	...	...	3	1	1	2	8	8	3	3	2	8	14	11	33
Tubercular Meningitis		1	6	...	...	3	...	1	2	...	1	...	...	...	...	...	5	1	1	7	
Tubercular Peritonitis		4	4	1	2	1	1	..	1	1	...	1	...	...	...	...	1	4	3	8	
General Tuberculosis		3	3	...	1	...	...	...	1	1	...	...	1	1	...	1	...	2	1	3	6
Totals	...	29	25	2	4	4	1	1	7	3	2	3	9	9	3	4	2	16	20	18	54

The above table shows that in children the tubercle bacillus attacks the mesenteric glands, peritoneum, and coverings of the brain, while in adults the site of attack is principally the lungs (Phthisis).

In the following table I have collected the deaths from tubercular diseases as far back as records are available, and classified them as far as the available information will permit:—

Year.	Total Deaths all forms of Tubercular Diseases.	Total Tubercular death-rate.	Year.	Phthisis	Other Tubercular Diseases.	Total all forms of Tubercular Diseases.	Phthisis Death-rate
1893	50	1.8	1900	50	14	64	1.7
1894	33	1.1	1901	33	17	50	1.1
1895	39	1.3	1902	24	10	34	0.8
1896	64	2.2	1903	36	26	62	1.2
1897	53	1.9	1904	33	29	62	1.1
1898	45	1.5	1905	34	27	61	1.1
1899	61	2.1	1906	26	15	41	0.8
			1907	33	15	48	1.1
			1908	33	21	54	1.07

Towards the end of the year the Sanitary Committee adopted the Voluntary System of Notification of "open" cases of Phthisis, the usual notification fee to be paid to the medical practitioner. It is too soon to express an opinion as to how this system will work, but, supplemented by the recent Local Government Board's Regulations relating to the notification of cases of Phthisis by Poor Law Authorities, a large proportion of the cases occurring in the Borough should be brought to the notice of the Health Department.

During the year a leaflet was prepared for distribution by the Health Visitor among consumptives, containing information about the ways in which the disease is spread and the precautions which ought to be observed to prevent communication to others.

Every case of Phthisis notified is visited by the Health Visitor, and suitable advice and instructions as to the disposal of sputum are given. In case of death or removal disinfection of the house and infected clothing is carried out.

83 visits were made to consumption cases during the year.

The last few years have been marked by intense activity in experimental and bacteriological research into the problems connected with the cause and spread of this disease. As a result of these researches our knowledge of the disease has been greatly advanced, and certain facts have come to light which are of great importance from a Public Health point of view.

It was at the London Congress in 1901 that Koch made the startling pronouncement as to the duality of the human and bovine types of tuberculosis, and the still more momentous announcement that the bacillus of bovine tuberculosis was practically incapable of transmission to man, and that consequently the danger of contracting Phthisis from the milk or meat of tuberculous cattle need not longer be guarded against.

The immediate result of this pronouncement by the universally recognised highest authority on tuberculosis was to paralyse the activities of Sanitary Authorities in their attempts to control the spread of the disease by tubercular milk or meat.

Koch's views were disputed at the time, and as the question of their accuracy was one of very great moment, hosts of workers immediately set themselves to prove or disprove the great German Professor's views, with a result that his statements have been controverted, and the infectivity of the bovine type of bacillus for man has definitely and with certainty been established.

While the result of the investigation by the Royal Commission and others has made the main issue clear, and established beyond dispute that tuberculosis not only can be, but is frequently conveyed from cattle to man, there are still other problems that are of great interest from the point of view of Preventive Medicine. Some of these are:—

- (a) The relative frequency of infection of the bovine and the human types in cases of tuberculosis in man.
- (b) The actual relation of the two types of bacilli to one another.
- (c) The question as to the channels and manner of infection.

Upon a clear understanding of these questions will largely depend our success in devising measures to combat the disease.

It is especially on the question of the channels and paths of infection that recent researches have altered our views.

It has been universally taught that tubercle bacilli enter the body in the air we breathe by way of the lungs. The following statement of Koch's may be regarded as the universally accepted view on the question:—"In by far the majority of cases of tuberculosis the disease has its seat in the lungs and has also begun there; from this fact it is justly concluded that the germs of the disease have got into the lungs by inhalation. We know with certainty that they get into the air with the sputum of the consumptive patients; the sputum of consumptive people, then, is to be regarded as the main source of the infection of tuberculosis. On this point, I suppose, all are agreed."

While Phthisis may be produced in this way, recent investigations lead us to conclude that the intestinal route plays a far more important rôle in the production of human pulmonary tuberculosis than has been hitherto recognised.

When an animal is made to breathe an atmosphere laden with Carbon particles, the detection of the latter in the lung tissue has hitherto been regarded as positive proof that they passed in with the air of inspiration along the trachea and bronchi to the air cells in the lungs and thence to the lung tissue. It has been universally taught that the same conditions govern the inhalation of tubercle bacilli.

Vansteenberghe and Grysez have demonstrated that when Carbon particles or other pigment is introduced into a guinea pig's stomach, or when the animal is placed in an atmosphere of carbon, the pigment is absorbed through the stomach and bowel wall, passes to the mesenteric glands, and then by way of the thoracic duct and right side of the heart to the lungs. These experiments have been performed under conditions which preclude the possibility of the pigment entering the lung by the respiratory tract. Calmette and Guérin have carried out similar experiments, using tubercle bacilli instead of China ink or other pigment, with similar results; the latter experiments have been confirmed by Whitla and Symmers. During the performance of these experiments an interesting difference in their behaviour towards the pigment and bacilli was demonstrated between the mesenteric glands in young and adult animals.

In the young animals the growing cells of the gland are packed close together and stop the pigment from passing through, while in the adult animal the cells are more loosely packed, so that the pigment readily passes through and is carried on towards the lungs. We have here a satisfactory anatomical explanation of the frequency of abdominal tuberculosis in children and of lung tuberculosis in later life.

These experiments lend great weight to the view that the main portal of entry to the body for tubercle bacilli is by way of the stomach ; they also indicate how frequently infection may come from tubercular milk or meat.



PART III.

DAIRIES, COWSHEDS, AND MILKSHOPS.

At the beginning of the year there were 35 cowkeepers and sellers of milk on the Register. Of the 35, 23 are cowkeepers occupying 42 cowsheds; the remaining 12 are milk sellers.

28 milk sellers bring in milk from outside the Borough; a number of the latter are cowkeepers.

Towards the end of the year I visited, along with the Sanitary Inspector, all the cowsheds in the Borough; as a result of this inspection the following alterations have been made:—

Additional means of lighting provided	...	3	cowsheds.
Additional means of ventilation provided	..	3	do.
Alterations to drainage	... ..	4	do.
Suitable manure pits provided	... ..	4	
Yard paved	... ..	1	
Keeping of pigs discontinued	... ..	1	

Three small cowkeepers refused to carry out the alterations requested, and have since given up cow-keeping

Table showing the cubic space per cow in the 39 sheds within the Borough.

Air space per cow.	No. of sheds.
Over 1,000 cubic feet.	4
do. 800 and under 1,000 cubic feet.	5
do. 600 do. 800 do.	8
do. 400 do. 600 do.	15
do. 300 do. 400 do.	7
	39

Many of the cowsheds are very poor structurally, and the accommodation within them is not very abundant. Seven of them have less than 400 cubic feet air space per cow; this amount is less than half the cubic space suggested by the Local Government Board. Allowing for the fact that these cows spend a great part of the year out of doors, and that in the winter time they are turned out daily for watering, the air space even on a low standard cannot be regarded as sufficient.

WATER SUPPLY.

The water supply is obtained from moorland streams and springs, the gathering grounds being situated on the eastern slope of the Penine Range, near Holmfirth, some 18 miles south of Batley.

There are three large impounding reservoirs at Holmfirth, the area and capacity of which are as follows:—

- (1) Yateholme Reservoir, area 16 acres, capacity 90,000,000 gallons, drainage area 322 acres.
- (2) Riding Wood Reservoir, area 10 acres, capacity 54,700,000 gallons, drainage area 583 acres.
- (3) Ramsden Reservoir, area 12 acres, capacity 86,773,000 gallons, drainage area 692 acres.

The three reservoirs have a total capacity of about 230 million gallons, and the gathering ground is about 1,600 acres in extent, situated among hills, with an elevation of 700 to 1,800 feet above sea level.

The water gravitates in cast-iron pipes, 15in. in diameter and $17\frac{1}{2}$ miles in length, from the impounding reservoirs to the service reservoir at Staincliffe, which is within the Borough; the capacity of this reservoir is 3,336,000 gallons (2½ days' supply). The water is distributed from the service reservoir by three separate classes of distributing mains—the high level, the low level, and the trade supply.

The amount used for domestic purposes per day is 410,000 gallons, and for trade purposes 820,000 gallons. The supply for all purposes is, therefore, 41 gallons per head.

In addition to the above supply, there is an agreement between the Butley Corporation and the Heckmondwike and Dewsbury Water Board, whereby the latter agree to supply a minimum of 1,000,000 gallons per week to the former.

By a special arrangement of flood-gates on the streams feeding the impounding reservoirs, the water most likely to act on lead—that is, the first washings off peaty soils after heavy rain—is excluded from the reservoirs.

In 1895 Dr. Houston reported favourably upon this water as regards its freedom from lead-solvent properties.

The water in the highest of the three reservoirs—the Yateholme reservoir—is used solely for the domestic supply of the town; the water in this reservoir is entirely free from sources of pollution, its drainage area being at a higher level than any dwelling or cultivated land.

COMMON LODGING HOUSES.

There are two registered Common Lodging Houses in the Borough, one for men only. These houses are kept in accordance with the Council's bye-laws, and are suitable for their purpose.

ICE CREAM SHOPS.

There are 13 ice cream shops on the Register. Owing to the frequency with which outbreaks of Typhoid and Diarrhœa have been traced to the eating of ice cream, the Sanitary supervision of these places is a matter of some importance.

One ice cream shop was closed during the year on account of the premises being unsuitable. The remaining ones are frequently inspected to ensure that the making and storing are carried out under proper sanitary conditions.

OFFENSIVE TRADES.

There are 4 tripe-boiling establishments in the Borough, but no complaints have been received regarding them, and the work appears to be carried out with due precaution.

41 Fried-Fish Shops were on the Register at the beginning of the year; this is a class of shop that calls for further supervision in the future than has been possible in the past.

SLAUGHTER HOUSES.

There were 20 Slaughter Houses on the Register at the beginning of the year. I have carefully inspected each of these, and the following are extracts from the notes which I made at the time:—

Taken as a whole, the Slaughter Houses are fairly clean and well kept, but, in regard to their structure and position, there is much that is undesirable. The houses, with one or two exceptions, have not been built with a view to slaughtering, but are out-houses, or rooms at the back of the shop or living-room, slightly altered to fit them for their present purpose. In several instances the slaughter house, butcher's shop, and living-room are directly connected, opening one into the other—this is an unsatisfactory arrangement.

LIGHTING. — All are poorly lighted, and eight are very badly lighted. In some cases the only place where light can enter is by the doorway, and, when the door is shut, the house is quite dark.

LAIRAGE. — In three instances the lairs for cattle awaiting slaughter are inside the Slaughter House.

KEEPING OF PIGS. — In several cases pigs are kept close to the Slaughter House. The occupier usually stated that the pigs were only kept a day or two to prepare them for slaughter. In two instances this statement could not be accepted, as the pigs were only ten or twelve weeks old.

PAVING OF FLOORS. — The paving was defective in three instances.

PAVING OF YARDS. — In six instances the yards were unpaved. This is a very serious condition, considering the nature of the business.

RECEPTACLES FOR REFUSE AND OFFAL. — In three instances no receptacles were provided, the offal being thrown upon the manure heap.

In four cases the Slaughter House was used as a general store for coals, feeding stuff for pigs, etc., and in several instances it was used as a sausage factory, or for the purpose of making meat pies.

The conditions in and about a Slaughter House in Town Street, Batley Carr, were so bad that I requested it should be closed at once; my request has been complied with.

In a Slaughter House in Clerk Green I found the carcase of a sheep, part of which was in a diseased state and unfit for food. The diseased portions and all the internal organs were seized and destroyed.

Since the time of my visit many of the alterations I suggested have been carried out—additional means of lighting have been provided, yards have been paved, the keeping of pigs has been abolished, and suitable receptacles for receiving refuse and offal have been obtained.

Our efforts will be directed to keeping these places as clean and sanitary as existing circumstances will permit, but their faulty positions, structure, and surroundings offer very great difficulties, which I believe can only be got over by building a central abattoir and abolishing private slaughter houses altogether.

Some of these slaughter houses have been in existence prior to 1875, and in consequence, there may be legal difficulties in the way of obtaining their total abolition.

SMOKE ABATEMENT.

SMOKE ABATEMENT.—The removal of the heavy pall of smoke which too frequently hangs over our town, polluting the atmosphere and shutting out the rays of light and sunshine, would enormously improve its appearance, making it cleaner and healthier for those who have to live in it.

During the winter months this smoke accentuates and prolongs, if it is not the sole cause of, the dense fogs which are so frequent at this time of the year, and which are so irritating to the bronchial passages, and must exert a serious influence on the health of the inhabitants.

The smoke in our atmosphere is entirely produced by the combustion of coal,

- (a) in domestic fireplaces.
- (b) in steam boiler furnaces.

Of these two sources of smoke, the domestic grate may for the present be neglected. No doubt the aggregate of smoke from this source is considerable, but it is negligible when compared with the dense volumes of black smoke which are almost continuously pouring from one or more of the many mill chimneys in the town.

The smoke nuisance in this Borough does not present any special features of difficulty; there are no industries which for their accomplishment call for smoky furnaces. Practically all the furnaces are steam boiler furnaces, and it is certain that in the case of these no more than a minimum amount of smoke should be emitted into the atmosphere.

It has been demonstrated that excessive production of smoke from steam boiler furnaces can usually be abolished by providing one or more of the following:—

- (1) Mechanical stoking.
- (2) Sufficient boiler accommodation.
- (3) Induced draught.

There may be certain conditions which call for special consideration, but, speaking broadly, the smoke nuisance can be remedied by adopting one or more of the above methods.

No legal proceedings for the abatement of smoke nuisance were resorted to during the year, but the Sanitary Committee have given considerable attention to the problem of smoke abatement. Towards the end of the year the Committee called a Public Meeting, to which the Manufacturers in the district were invited; the latter showed a most reasonable spirit, and some of them who have adopted modern smoke prevention appliances pointed out how they have been able to combine efficiency and economy in this matter; it was stated that each year the saving in coal amounts to a considerable percentage of the original outlay, and they have the additional satisfaction that they are complying with the requirements of the Sanitary Committee and assisting in making the town pleasanter and healthier for themselves and their workpeople.

The tree planting scheme which has been introduced by the Mayor, Councillor Akeroyd, the object of which is to plant with trees all the principal streets and roads in the Borough, and which has already done much to improve the appearance of the town and promote a spirit of Town Planning, will not have the success it deserves until the pollution of the atmosphere by smoke and acid fumes is prevented.

Up to quite recently it has been difficult to convince manufacturers that there are ways of abolishing smoke without placing a material burden upon them; it cannot be too widely known that the emission of black smoke is not merely a nuisance, it is an extravagance, any outlay on which a manufacturer may make will amply repay him.

Since the smoke crusade commenced several of the mills have installed new smoke prevention apparatus with satisfactory results.

Much however still remains to be done, but I am able to state that the Local Authority have now entered upon a more vigorous policy with a view to minimising this class of nuisance.

EXCREMENT AND REFUSE DISPOSAL.

The sewage and excreta are removed partly by "dry methods" and partly by the "water carriage system." The following table indicates the extent to which each system prevails:—

Dry Methods.	Dry Ash Places	657	} 4,655
	Ashpits connected with Privies	658	
	Privies	1,335	
	Ash Privies	1,681	
	Pail Closets	324	
Water Carriage System.	Water Closets	1,668	} 2,041
	Trough and Waste Water Closets	280	
	Blocks of Trough and Waste Water Closets	93	

The privy contents are disposed of to farmers, the system of removal being as follows:—The "middens" are emptied once a month, the contents being thrown out on the surface of the yard, paved or unpaved, and loaded in carts covered with a waterproof sheet. It is carted by night to the railway station, and deposited in trucks which convey it to the land.

Household refuse and the contents of dry ash-pits are carted to the Destructor and burnt; in addition to household refuse a large amount of animal waste is collected from fried fish shops, butchers' shops, etc., and disposed of in the same way.

The Destructor, a modern one of the Horsfall type, containing four cells with a back feed, is situated at the Electricity Works, New Ing Fields. About 165 tons of refuse are burnt weekly, and the steam generated in the boiler is carried to the main boiler house of the Electric Works, and assists in supplying power to the main engines.

The dangers to health of ash-middens and privy-middens have been already referred to, and need not be repeated. The work of converting the middens to water closets is progressing steadily, but even at the present rate of progress it will be a number of years before they are completely abolished.

The following is the number of conversions, etc., during 1907 and 1908:—

	1907.	1908.
Privies, &c., converted into water closets...	126	174

At the time of conversion the yard is also paved or asphalted.

All new houses must be provided with water closets.

SEWAGE AND SEWAGE DISPOSAL.

The sewers are upon the "separate system," there being one set of pipes for sewage and another for storm water.

The storm water sewers open into the Batley Beck or its tributaries.

The sewers for sewage have six outfalls. Owing to the hilly nature of the Borough it is not possible to take all the sewage to the main outfall works in Bradford Road, but several small and mostly outlying parts, are drained as follows:—

- (a) $2\frac{1}{4}$ acres drain into the sewers of Dewsbury (Cresswell Lane)
- (b) 60 acres drain into the Heckmondwike sewers.
- (c) Small sewage works at Howden Clough, which purify the sewage of that district.
- (d) Small sewage works at Howley Beck.
- (e) Small sewage purification works at Lamplands Nursery.

The main outfall works are about six acres in extent, and are situated near Bradford Road, within the Borough. The main outfall sewer is $2\frac{1}{4}$ miles in length, and there are about 28 miles of contributory sewers.

The sewage gravitates into a detritus tank, except the sewage from Batley Carr, which is pumped in; the capacity of this tank is 94,000 gallons. The sewage is pumped from the detritus tank to a septic tank of 1,750,000 gallons capacity, and thence gravitates to bacteria beds.

The dry weather flow, including trade refuse, is 550,000 gallons in 24 hours.

Storm water beds are provided, 2,800 yards in area and 3 feet deep. An application is at present before the Local Government Board to borrow money to extend the bacteria beds. If these extensions were carried out the storm water beds would not come into operation so early as they do at present, and as a result a better storm water effluent would be obtained.

The sewers are ventilated by manholes and shafts, and are flushed at frequent intervals by a special cart capable of holding 300 gallons of water.

There are 57 houses in Primrose Hill not connected with sewers, but with cesspools in an adjoining field; with one or two exceptions these houses are more than 100ft. from sewers. The question of having these houses connected with a sewer is under consideration.

FACTORY AND WORKSHOPS ACT, 1901.

UNDERGROUND BAKEHOUSES.—There were three underground bakehouses on the Register at the beginning of the year. As these had not been certified as suitable by the Council in accordance with the requirements of the Factory and Workshops Act, 1901, representations were made to the owners as a result of which the bakehouses have been closed and are not now used for baking purposes.

FACTORIES, WORKSHOPS, WORKPLACES, AND HOMEWORK

1. INSPECTION.

Including Inspections made by Sanitary Inspector.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
FACTORIES (Including Factory Laundries)	86	4	—
WORKSHOPS (Including Workshop Laundries)	23	6	—
WORKPLACES	—	—	—
Total	109	10	—

II. DEFECTS FOUND.

Particulars.	Number of Defects.			
	Found.	Remedied.	Referred to H.M. Inspector	Number of Prosecutions.
Nuisances under the Public Health Acts.*				
Want of Cleanliness	5	5	—	—
Want of Ventilation	4	4	—	—
Overcrowding	—	—	—	—
Want of Drainage of Floors	—	—	—	—
Other Nuisances	4	4	—	—
†Sanitary Accommodation {	insufficient ...	7	7	—
	unsuitable or			
	defective ...	21	21	—
	not separate for			
	sexes ...	4	4	—
Offences under the Factory and Workshop Act.				
Illegal occupation of underground Bakehouse (S. 101)	3	3	—	—
Breach of special sanitary requirements for Bakehouses (S.S. 97—100)	—	—	—	—
Other Offences	—	—	—	—
Total	48	48	—	—

*Including those specified in sections 2, 3, 7, and 8 of the Factory and Workshop Act as remediable under the Public Health Acts.

†Section 122 of the Public Health Acts Amendment Act, 1890, has been adopted. The accommodation required is one closet for 20 persons.

III. HOMEWORK.

Outworkers' Lists (section 107):—	Lists.	Outworkers.
Lists received from employers twice in the year		
Nature of work :—Wearing apparel	2	2

IV. REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year.	Number.
Rag Sorting	88
Boot Repairing	31
Dressmaking	25
Breadmaking	18
Umbrella Repairing	17
Millinery	12
Tailoring	11
Blacksmiths	9
Waste Sorting, etc.	9
Plumbing	8
Joiners	7
Tinplate Working... ..	4
Watch Repairing, etc.	4
Wheelwrights	3
Cycle Repairing	2
Rug Making	2
Carriage Building... ..	2
Stocking Knitting... ..	2
Saddlery	2
Various	10
Total	266

V. OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (S. 133)	—
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Act (S. 5)	37
Other	4
Underground Bakehouses (S. 101) :—	
Certificates granted during the year	nil.
In use at the end of the year	nil.

Factories include all places in which mechanical power is used in aid of the manufacturing processes.

The 86 Factories referred to in the foregoing tables were inspected by myself or the Sanitary Inspector, as a result of complaints being received principally from the Government Inspectors.

The duties of the Health Department in connection with Factories is the enforcement of the provision of suitable and sufficient sanitary conveniences.

The following are the details of the defects remedied during the year :—

Doors provided to Water Closets	24
Screens do. do. do.	4
Ventilation to Water Closets	8
New Water Closets constructed	12
Privies converted into Water Closets... ..	8

SANITARY DEPARTMENT.

The following is the REPORT of MR. JOSEPH LINDLEY,
Assoc. R. San. Inst., Chief Inspector of Nuisances, on the
work done by the Sanitary Department during the year.

GENERAL SUMMARY.

Complaints registered	...	...	...	...	77
Notices and Letters served	...	...	...	...	349
Noticed personally	...	...	...	...	40
Houses visited	...	...	...	...	659
Infected Houses visited	...	...	...	...	116
Houses damp or Roof defective	...	...	...	...	3
Drains inspected	...	...	...	...	670
Drains found defective	...	...	...	...	27
Drains tested and found defective	...	...	...	...	4
Defective Rainwater Pipes or Eave Spouting	...	...	...	...	9
Yards paved or asphalted	...	...	...	...	55
Underground Bakehouses closed	...	...	...	...	3
Slaughterhouse closed	...	...	...	...	1
Cow Mistals closed	...	...	...	...	3
Cow Mistal re-constructed	...	...	...	...	1
Privies converted into Water Closets	...	...	...	163	} 262
Additional Water Closets	...	...	...	88	
Pail Closets converted into Water Closets	...	...	...	11	
Smoke Observations taken	...	...	...	...	20
Food Samples for Analysis purchased	...	...	...	...	38
Nuisances from keeping Animals	...	...	...	...	8
,, ,, Manure Accumulation	...	...	...	...	6
,, ,, Overcrowding Houses	...	...	...	...	9
,, reported upon	...	...	...	...	400
,, abated	...	...	...	...	300
Visits to Common Lodging Houses	...	...	...	...	6
,, ,, Cowsheds and Dairies	...	...	...	...	100
,, ,, Mills and Workshops	...	...	...	...	109
,, ,, Fried Fish and Chipped Potato Shops	...	...	...	...	30
,, ,, Slaughterhouses	...	...	...	...	57
Applications for Yearly Registration of Slaughterhouses	...	...	...	...	10
Summonses taken out and upheld	...	...	...	...	2

“Sale of Food and Drugs Act, 1875.”

During the year, in accordance with “The Sale of Food and Drugs Act, 1875.” Thirty-eight samples of Food have been submitted to and analysed by the Public Analyst at Bradford (F. W. Richardson)—

ARTICLES.	Genuine	Genuine (on Border Line)	Adulterated	Totals
New Milk ...	25	3	3	31
Skimmed Milk		1		1
Butter ...	3			3
Lard ...	1			1
Oatmeal ...	1			1
Treacle...	1			1
Totals ...	31	4	3	38

Note.—No prosecutions were ordered re Two Samples of New Milk adulterated respectively, with 1.8 per cent and $2\frac{1}{3}$ per cent of added water, because they were considered not bad enough to justify legal proceedings.

Table showing Prosecution under “The Sale of Food and Drugs Act, 1875 to 1899 :”—

Date of Hearing	NATURE OF OFFENCE	DECISION OF COURT					
		Penalty			Costs		Total
		£	s.	d.	£	s.	d.
1908 J'ly 27	Selling New Milk Adulterated with 26% of added water.	7	10	0	1	0	6
		8	10	6			

Table showing Prosecution under “The Public Health Act, 1875 :”—

Date of Hearing	NATURE OF OFFENCE	DECISION OF COURT		
1908 J'ly 27	Nuisance from the want of Closet and Ashes Place Accommodation.	Order	for	Abatement
		within	21	days
		and		costs.

Sewer
Flushing.

With the combined Watering and Flushing Cart, Sewers are more efficiently flushed, and a great saving of water effected.

During the year, and especially the third quarter, the Sewers were systematically flushed. Also, your Committee have wisely given instructions for the emptying and cleansing regularly of all house gully traps by your own staff. In my opinion, the result will be a great factor towards the health of this Borough.

Disinfection.

Disinfecting powder and bottles of disinfecting fluid have been given freely to persons applying for the same.

Houses in which Infectious Diseases have occurred, also the infected bedding and clothing, also books borrowed from the Public Lending Library, have in all cases been disinfected.

Re Consumption or Tuberculosis — disinfection is offered in every case after removal or death (without any charge).

The Patent Steam Disinfecting Apparatus at the Bradford Road Depôt is of the greatest service, and has been ever since it was erected nearly seventeen years ago.

From November 4th, 1901, to December 31st, 1908, the sum of £37 12s. 6d. has been received for disinfecting articles of clothing, &c., brought from places outside the Borough.

Shop Hours
Act, 1892.

Under the "Shop Hours Act" no complaints have been made to me under this Act.

Asphalting
and Paving of
Back Yards.

Continued progress of Asphalting and Paving of Back Yards has been done greatly to the comfort and cleanliness of the surrounding dwelling-houses.

The property-owners are to be commended for the ready manner they comply with sanitary improvements required.

PublicMarket I have regularly visited the Public Market on Market days, viz., Fridays and Saturdays, and carefully watched the meat stalls, and inspected the food exposed for sale, also, inspected the Butchers', Greengrocers', and Poultry Dealers' shops.

Offensive Trade. Your Committee granted permission for Tripe Boiling to be carried on in a building, situate off Union Street.

Fried Fish and Chipped Potato Shops. There are 41 Fried Fish and Chipped Potato Shops within the Borough. They have been visited and found to be kept in a cleanly state.

Ice Cream Makers. There are 13 Ice Cream Makers and Sellers within the Borough, their premises upon inspection have been found in a cleanly state.

Cowsheds and Dairies. There are, within the Borough, 23 Cowkeepers and 12 Milk Sellers (not Cowkeepers). Also, 28 Milk Sellers, bringing milk from Districts outside of our Borough. In my opinion, these Milk Sellers, Dairies, Farms, or Cowsheds, from whence the milk is obtained, should be under our supervision; also, when any Infectious Disease occurs, it should be compulsory, under a penalty, to send forthwith to the Local Authority in which the milk is sold a Notification of the disease.

Three Cowsheds have been closed and one re-constructed during the year.

Milk Cans. Knowing how essential it is for every utensil used in a Milk Supply to be kept in a scrupulously clean state, I must strongly advise the abolition of the broad rim fixed on the large milk cans, and make the lid to cover completely the milk can.

If this was done a source of contaminating the Milk in transit would be obviated.

Clean Milk is wanted, not only at the farm and during delivery, but after delivery at the home, for I am certain milk becomes most contaminated in the homes. No one knows better than the Milkman the kind and state of utensils (mugs, basins, etc.) he has to pour the milk into. Then it is placed very often on the table with the unwashed breakfast crockery without any covering, and often during the sweeping of the kitchen floor, and, should the floor be covered with cocoa-nut matting or felt druggeting, things are very much worse.

Slaughter
Houses.

There are within the Borough 19 Registered Slaughter-houses. One Slaughterhouse closed during the year. They have been regularly visited, and upon inspection have been found clean and fairly well kept.

The removal of garbage, offal, etc., from these places by your own staff is the proper and only satisfactory mode.

Common
Lodging
Houses.

There are within the Borough two Registered Common Lodging-houses (one of these for men only); upon inspection have been found clean and fairly well kept.

Each occupier is supplied with printed forms, in accordance with the "Public Health Act," by your Committee, and duly reports to me every morning the persons who have slept over-night in his house.

Dirty and
Foul Privies.

30 persons were personally noticed to cleanse and lime-wash dirty and foul privies, and in each case the notice was complied with.

17 persons were personally cautioned and threatened with legal proceedings for causing a nuisance by depositing water in the Ashpits or depositing ashes on the outside of the Ashpit.

Wet Ashpits are a nuisance highly dangerous to health, and the gross offenders should be punished.

Trapped drains are provided on the outside of Ashpits for liquid filth, and much of the various matter deposited in the Ashpits might be burnt without causing any nuisance.

2 persons were cautioned for depositing trade refuse in Ashpits.

Owing to the difficulty experienced by the shopkeepers in disposing of their waste paper, your Committee have permitted your own staff to remove such material upon payment of a small charge to defray cost incurred.

Ashpit
Cleansing
Department.

The emptying of Ashpits should always be done by the Corporation, and the mode adopted by your Committee for the collection of house refuse and fæcal matter—"The Block System"—is, in my opinion, the best, the most economic, and most conducive to health.

That efficiency is the truest economy is proved by the fact that the yearly cost of emptying each Ashpit, including Pail Closets, Slaughter and Fish Pails, is less now than when Ashpits, etc., were emptied not so often as now. Average cost per load (including emptying and removing) 2s. 7d. per load.

During the year every Ashpit in the Borough has been emptied and deodorized with Carbolate of Lime 15 times.

The Pail Closets, Slaughter and Fish Pails are emptied weekly.

The covering of Ashpit refuse by means of waterproof sheets, during removal through the Borough, is a marked Sanitary improvement.

Sale of
Nightsoil.

The sum of £38 5s. has been realized from the sale of Night-soil for the year. The amount would have been more had it not been for the restrictions imposed by the

Railway Companies, requiring the unloading of trucks within two days of delivery, upon default, for each truck, a charge of six pence a day is charged for demurrage.

Upper Batley
Tips. From the following Ashpit Cleansing Table you will observe that at the Upper Batley Tips 623 loads have been deposited, or an increase of 374 loads when compared with the preceding year.

16 loads of clinker ashes have been deposited in the Quarry, Bunker's Lane.

Your Committee in November, 1906, decided that tipping of Ashpit Refuse should cease, and the same should be destroyed by the Destructor.

Refuse
Destructor
Works.

The old Destructor, consisting of six cells and Jones Cremator, ceased working in November, 1904, and the new Horsfall Destructor, consisting of four cells, commenced working in the same month, and during the year 1908 has destroyed 11,388 loads of Ashpit Refuse, also 100 loads of Market Refuse; this number exceeds by 4,834 loads the largest number of loads destroyed in any one year by the old Destructor. The four cells are constructed to, and now destroying the whole of the Ashpit Refuse collected within the Borough, except during Destructor repairs, when a small number of loads are tipped elsewhere.

An average of 219 loads, or 165 tons of Refuse, have been destroyed weekly (a load averaging 15 cwt.). 1·258 lbs. of water are evaporated per lb. of Refuse, and as the steam raised supplies the generating plant in Electricity Works, a saving of coal effected thereby equals from $16\frac{1}{2}$ to $17\frac{1}{2}$ tons per week.

The sum of £14 0s. 8d. has been realised by the sale of Glass and Old Iron removed from the contents of Ashpits within the Borough.

The following Table shows the number of Articles Destroyed or Disinfected : ”—

	Beds	Pillows	Blankets	Matresses	Clothing, &c.
Destroyed for the Borough ..	15	2	—	159	30
Disinfected for the Borough	86	236	200	21	478
Disinfected for the Batley and District Hospital.	67	103	122	—	—
Totals	168	359	322	180	508

Table showing for each month the number of Ashpits, &c., emptied, and loads removed
by your own Staff :-

	Jan	Feb.	Mar.	Apr.	May	June	July	Aug	Sep.	Oct.	Nov.	Dec.	Totals
No. of Slaughter Cans emptied	257	241	214	240	243	211	262	223	215	275	217	245	2843
" Pails emptied	1406	1247	1297	1302	1347	1288	1420	1273	1218	1365	1252	1264	15679
" Fish Places emptied	420	415	400	404	412	411	408	448	379	444	409	380	4930
" Ashpits emptied	2644	2497	3223	2935	2854	2871	4092	3322	2661	3159	3202	3186	36646
Loads of Nightsoil delivered into Trucks	254	243	252	178	208	209	183	159	173	193	164	175	2391
" " carted and delivered to Farmers	210	180	121	28	50	32	29	14	20	42	55	51	832
Totals...	464	423	373	206	258	241	212	173	193	235	219	226	3223
Trucks loaded with Nightsoil	23	22	22	16	16	19	16	13	15	19	14	16	211
Loads Rubbish destroyed by Destructor	1081	691	1078	1061	1073	787	961	812	801	887	1056	1100	11388
Bunkers Lane Quarry (Clinker Ashes)	7	3		1	1		1		1		1	1	16
W. C. Boocock's Tip, Howden Clough	12	45	38			36							131
S. Messenger's Tip, Upper Batley	79	241	4			91				77			492
Totals...	1179	980	1120	1062	1074	914	962	812	802	964	1057	1101	12027

The following Tables I, II, III, and IV, are prepared pursuant to an instruction of the Local Government Board.

TABLE I.

Borough of Batley—Vital Statistics of Whole District during 1908 and previous Years.

YEAR.	Population estimated to Middle of each year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.					TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-registered residents in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NETT DEATHS AT ALL AGES BELONGING TO THE DISTRICT.	
		Number.	Rate.*	At all Ages.		Rate.*							
				Under 1 Year of Age	Number.								
1	2	3	4	5	Rate per 1,000 Births registered	6	7	8	9	10	11	12	13
1898.....	29,682	855	28.8	138	161	540	18.1	7	1	17	556	18.7	
1899.....	29,817	867	29.1	148	171	524	17.5	14	4	15	535	17.9	
1900.....	30,198	869	28.8	148	170	585	19.3	17	3	30	612	20.3	
1901.....	30,321	903	29.7	189	209	588	19.4	11	4	26	610	20.1	
1902.....	30,548	868	28.4	148	171	535	17.5	8	1	22	556	18.2	
1903.....	30,734	843	27.4	139	165	540	17.5	14	4	33	569	18.5	
1904.....	30,924	818	26.5	193	236	655	21.1	20	11	44	688	22.2	
1905.....	31,117	823	26.4	151	183	548	17.6	18	8	53	593	19.0	
1906.....	31,314	849	27.1	155	182	502	16.0	17	7	33	530	16.9	
1907.....	31,515	753	23.8	123	163	556	17.6	17	10	58	604	19.1	
Averages for years 1898-1907.	30,617	844	27.6	153	181	557	18.1	13	5	33	585	19.0	
1908.....	31,720	859	27.0	139	161.8	536	16.8	23	8	37	565	17.8	

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

NOTE.—The deaths to be included in Column 7 of this Table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity, and have died in public institutions elsewhere.

The "Public Institutions" to be taken into account for the purposes of these tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses and lunatic asylums. A list of the Institutions in respect of the deaths in which corrections have been made should be given on the back of this Table.

Total population at all ages.....	30,321	} At Census of 1901.
Number of inhabited houses.....	7,312	
Average number of persons per house.....	4.1	

I.	II.	III.
Institutions within the District receiving sick and infirm persons from outside the District.	Institutions outside the District receiving sick and infirm persons from the District.	Other Institutions, the deaths in which have been distributed among the several localities in the District.
Batley and District Hospital.	Oakwell Joint Hospital. Dewsbury Union Workhouse. Leeds General Infirmary. West Riding Asylum.	

TABLE II.

Vital Statistics of Separate Localities in 1908.

NORTH WARD.

Population estimated to middle of the year	...	11,354
Births registered	...	320
Deaths at all ages	...	234
Deaths under 1 year	...	69

EAST WARD.

Population estimated to middle of the year	...	12,401
Births registered	...	323
Deaths at all ages	...	187
Deaths under 1 year	...	41

WEST WARD.

Population estimated to middle of the year	...	7,965
Births registered	...	216
Deaths at all ages	...	144
Deaths under 1 year	...	29

TABLE III.—Cases of Infectious Disease notified during the Year 1908.

NOTIFIABLE DISEASE.	Cases Notified in whole district.						Total Cases notified in each locality.				Number of cases removed to Hospital from each locality.			
	At all Ages.	At Ages—Years.					1	2	3	1	2	3	4	
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.								65 and upwards
Small-pox													
Cholera													
Diphtheria (including Membranous Croup)...	27		4	19	2	2	13	8	6	3	...	...	3
Erysipelas ...	17		...	1	3	10	3	11	3	...	...	...	...
Scarlet Fever ...	48		8	31	5	4	13	23	12	...	...	1	1
Typhus Fever ...	...												
Enteric Fever ...	31		1	4	10	16	14	13	4	8	6	2	16	
Relapsing Fever ...	...												
Continued Fever ...	...												
Puerperal Fever ...	2		...	...	1	1	1	...	1	...	...	...	...
Plague ...	...												
Totals ...	125		13	55	21	33	44	55	26	11	6	3	20	

Isolation Hospital, Oakwell Joint Hospital, Birstall. Total available beds, 36. Number of Diseases that can be concurrently treated, 3.

TABLE IV.

Causes of, and Ages at, Death during Year 1908.

Causes of Death.	Deaths at the Subjoined Ages of "Residents" whether occurring in or beyond the district.							Deaths at all Ages of "Residents" be- longing to Local- ities, whether occur- ing in or beyond the district.			Total Deaths whether of "Residents" or Non- "Residents" in Public Institutions in the district
	All ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and up- wards	North	East	West	
1	2	3	4	5	6	7	8	9	10	11	12
Small-pox ...	...	...	...	...	...	...	...	...	...	...	...
Measles ...	13	6	7	...	...	...	...	10	1	2	...
Scarlet fever ...	1	...	1	...	...	...	...	...	...	1	...
Whooping-cough ...	7	2	5	...	...	...	...	5	...	2	...
Diphtheria (includ- ing Membranous croup) ...	4	...	1	3	...	...	...	3	...	1	...
Croup ...	1	...	...	1	...	...	...	1	...	...	...
Fever { Tyhus ...	...	...	...	...	...	...	...	...	...	...	...
{ Enteric ...	7	...	...	...	2	5	...	4	2	1	...
{ Other c't'd ...	...	...	...	...	...	...	...	...	...	...	...
Epidemic influenza ...	14	...	...	...	...	6	8	7	3	4	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...
*Diarrhœa ...	48	38	7	...	...	3	...	23	12	13	...
*Enteritis ...	6	5	1	...	...	...	...	3	2	1	...
*Puerperal fever ...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas ...	...	...	...	...	...	...	...	...	...	...	...
Phthisis (Pulmon- ary Tuberculosis) ...	33	1	1	4	3	22	2	8	14	11	...
Other tuberculosis diseases ...	21	1	9	6	2	3	...	8	6	7	2
*Cancer, malignant disease ...	43	...	...	...	...	28	15	17	14	12	5
Bronchitis ...	50	10	8	...	...	16	16	23	14	13	...
Pneumonia ...	38	7	8	1	3	13	6	16	14	8	1
Pleurisy ...	...	...	...	...	...	...	...	...	...	...	...
Other diseases of Respiratory organs ...	4	...	2	...	...	1	1	2	1	1	...
Alcoholism ...	1	...	...	...	...	1	...	1	...	...	...
Cirrhosis of liver ...	...	...	...	...	...	...	...	...	...	...	...
Venereal diseases ...	...	...	...	...	...	...	...	...	...	...	...
Premature birth ...	22	22	...	...	...	...	...	10	11	1	...
Diseases and acci- dents of par- turation ...	2	...	...	...	2	...	...	1	...	1	...
Heart diseases ...	56	...	...	3	3	32	18	22	21	13	6
Accidents ...	12	1	1	...	1	8	1	6	2	4	6
Suicides ...	1	...	...	...	...	1	...	...	...	1	...
Diseases of urinary organs ...	28	...	1	2	1	16	8	6	9	13	2
Diseases of blood vessels ...	37	1	...	...	...	14	22	10	14	13	...
Old age ...	28	...	...	...	...	1	27	8	13	7	...
All other causes ...	88	45	13	5	1	18	6	40	34	14	1
All causes	565	120	65	95	18	188	120	224	187	144	22

NOTES TO TABLES IV. AND V.

- (a) In Table IV., all deaths of "Residents" occurring in public institutions, whether within or without the district, are to be *included* with the other deaths in the columns for the several age groups (columns 2-8). They are also, in columns 9-15, to be *included* among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars. Deaths of "Non-residents" occurring in public institutions in the district are in like manner to be *excluded* from columns 2-8 and 9-15 of Table IV.
- (b) *See* notes on Table I. as to the meaning of "Residents" and "Non-residents," and as to the "Public Institutions" to be taken into account for the purposes of these tables. The "Localities" in Table IV. should be the same as those in Tables II. and III.
- (c) All deaths occurring in public institutions situated within the district, whether of "Residents" or of "Non-residents," are, in addition to being dealt with as in note (a) to be entered in the last column of Table IV. The total number in this column should equal the figures for the year in column 9, Table I.
- (d) The total deaths in the several "Localities" in columns 9-15 of Table IV. should equal those for the year in the same localities in Table II., sub-columns c. The total deaths at all ages in column 2 of Table IV. should equal the gross total of columns 9-15, and the figures for the year in column 12 of Table I.
- (e) Under the heading of "Diarrhœa" are to be included deaths registered as due to Epidemic diarrhœa, Epidemic enteritis, Infective enteritis, Zymotic enteritis, Summer diarrhœa, Dysentery and Dysenteric diarrhœa, Choleraic diarrhœa, Cholera and Cholera Nostras.

Deaths from diarrhœa secondary to some other well-defined disease should be included under the latter.

Deaths from Enteritis, Muco-Enteritis, Gastro-Enteritis, and Gastritis (see under the heading Diarrhœal Diseases in Table V.) in Tables IV. and V. should be placed immediately below, but separately from, those enumerated under the heading Diarrhœa as defined by enumeration above. This is particularly important for deaths under one year of age, as many of the deaths in infancy returned as due to Enteritis are really caused by Epidemic Diarrhœa. In the course of years, by the adoption of this recommendation, it will be practicable to ascertain the probable amount of transfer between these different headings.

- (f) Under the headings of "Cancer" and Puerperal fever" should be included all registered deaths from causes comprised within these general terms. Thus: Under "Cancer" should be included deaths from Cancer, Carcinoma, Malignant disease, Scirrhus, Epithelioma, Sarcoma, Villous tumour, and Papilloma of bladder, Rodent ulcer. Under "Puerperal Fever" are to be included deaths from Pyæmia, Septicæmia-Sapremia, Pelvic peritonitis, Peri- and Endo-Metritis occurring in the Puerperium.
- (g) Under "Congenital Defects" in Table V. are to be included deaths from Atelectasis, Icterus neonatorum, Navel hæmorrhage, Malformations and Congenital hydrocephalus.
- (h) Under "Tuberculous Meningitis" are to be included deaths from Acute hydrocephalus.
- (i) Under "Other Tuberculous Diseases" are to be included deaths from Tuberculosis, Tuberculosis of bones, joints and other organs, Lupus and Scrofula.
- (j) All deaths certified by registered Medical Practitioners and all Inquest cases are to be classed as "Certified"; all other deaths are to be regarded as "Uncertified."



BOROUGH OF BATLEY,

REPORT on the
**Medical Inspection of
School Children.**



BOROUGH OF BATLEY.

TO THE CHAIRMAN AND MEMBERS OF THE EDUCATION COMMITTEE.

LADIES AND GENTLEMEN,

I have the honour to present to you the first annual report on the Medical Inspection of school children.

Before giving the details of the actual work of inspection it may be of interest to refer briefly to that section of the Education Act, which provides for the medical inspection of school children and to the Circulars issued by the Board of Education on this section.

EDUCATION (ADMINISTRATIVE PROVISIONS) ACT, 1907.

“Section 13.—(1) The powers and duties of a local education authority under Part III. of the Education Act, 1902, shall include—

- (a) Power to provide for children attending public elementary schools, vacation schools, vacation classes, play centres, &c.
- (b) The duty to provide for the medical inspection of children before, or at the time of, or as soon as possible after their admission to a public elementary school, and on such other occasions as the Board of Education direct, and the power to make such arrangements as may be sanctioned by the Board of Education for attending to the health and physical condition of the children educated in public elementary schools.

(2) This section shall come into operation on the first day of January, Nineteen hundred and eight.”

The Circulars 576, 582, and 596 of the Board of Education are based on this section and indicate the extent and scope of Medical Inspection required, and how the details of the work may be carried out. The more important points discussed in these circulars are as follows:—

(1) OBJECT OF MEDICAL INSPECTION.

That the aim of the Act is to bring about a general physical improvement of the race. It is recognised that a healthy and vigorous frame is from a national standpoint a matter of supreme importance.

(2) ORGANISATION.

(a) That the whole of the work be organised and supervised by the Medical Officer of Health, and that a close inter-relation between school hygiene and general hygiene, particularly that of the home of the child, should be secured and maintained.

(b) School Nurses and Health Visitors can render much assistance not only at the time of inspection but also afterwards in visiting the homes of the defective children, advising the parents, and assisting in the treatment of minor ailments.

(c) The Teachers should be induced to take an active interest in the work, as they, perhaps more than any others, can give most valuable help.

(d) Parents are to be invited and encouraged to attend the medical inspection, and a sense of duty and responsibility is to be fostered in their minds about matters affecting the health of their children and the hygiene of their homes.

(3) NUMBER OF INSPECTIONS.

Four inspections are to be made during the school life of a child.

The first at the time of, or as soon as possible after, admission to school.

The second at or about the third year of school life (say the seventh year of age).

The third at or about the sixth year of school life (say the tenth year of age).

The fourth immediately before the departure of the child into working life (about age thirteen).

(4) THE WORK FOR 1908.

It is expected that the examination of those children entering and those leaving school, that is to say the first and fourth inspections, will be sufficient for this year.

(5) THE WORK FOR 1909.

In this year the Board will be satisfied with the examination of the children entering school, those about to leave school, and those mature for the second inspection.

(6) RECORDS OF EXAMINATIONS TO BE KEPT.

Records of the results of the examinations are to be entered in a register or kept on a card index system, a separate card being provided for each child. The schedule or card to contain a certain minimum amount of information as indicated in the sample schedule accompanying Circular 582.

(7) AN ANNUAL REPORT TO BE MADE BY THE SCHOOL MEDICAL OFFICER.

(8) ARRANGEMENTS ARE TO BE MADE FOR ATTENDING TO THE HEALTH AND PHYSICAL CONDITION OF THE CHILDREN UNDER THE FOLLOWING HEADS:—

(a) The Medical Officer to report from time to time to the Education Committee on the sanitary condition of the schools and on all matters affecting the health of the school children.

(b) The giving of advice and directions to parents.

(c) The Duties of School Nurse to be defined.

(d) The provision out of the rates of spectacles, and other appliances of a remedial nature, for those too poor to pay for them.

(e) Contributions out of the rates to Hospitals, Dispensaries, and Institutions, which arrange for the treatment of poor school children, and to the medical men working for these institutions.

(f) The establishment of School Clinics for the purpose of making a more complete examination in difficult cases than it is possible to do in school, and for the treatment of diseases and defects peculiar to school life.

EXTENT OF THE WORK TO BE DONE IN BATLEY.

There are ten elementary schools in the Borough, 23 Departments, and 4,874 children on the school registers. To perform the work of medical inspection on the lines suggested in the Board's Memorandum, the following staff has been appointed.

(a) 1 Medical Officer to devote half of his time to school work and half time to the duties of Medical Officer of Health.

(b) 1 School Nurse.

(c) 1 Clerk to devote half time to the clerical work of school inspection.

GENERAL EQUIPMENT.

Ten weighing and measuring machines have been provided, one for each school.

Appliances for examining the eye, ear, nose, &c.

Snellen's cards for testing the eyesight.

A Laboratory has been equipped in the Public Health Department, and is available for the examination of cases of Ringworm, Diphtheria, &c.

Records are kept on the card index system, the card adopted containing all the particulars set out in the Board's Circular No. 582, and in addition there is provision for recording particulars about the occupation of the parents, the number of rooms, and number of persons in the home.

Supplementary cards are used for such cases as may require an extended note regarding their condition. A card has also been provided for "special cases," that is to say, children not in the age group for routine inspection, but presented for examination by the teacher because of some obvious defect.

An office record of each day's work is entered on a "summary sheet," this summary sheet contains all the particulars on the card, and is sufficiently large to hold the names of all children examined in one day. This method renders the making of monthly or quarterly returns much easier than if all the cards had to be gone through, and in addition covers the risk of cards being lost.

A register of defective children is being kept, in which are recorded particulars of the number of visits paid by the school nurse, or other officials, the action taken by the parents, and the results of treatment.

PREPARATION FOR INSPECTION.

The work of inspection commenced on the 15th August, 1908, and from this date to the end of the year seven of the ten schools in the Borough were examined. The three schools not inspected during 1908 have, at the time of writing, been inspected and their results will appear in the report for 1909.

When the date on which the inspection is to take place has been arranged, the head teacher proceeds to make out a card for each child in the groups to be examined. The height and weight are entered in the appropriate columns, and certain particulars relating to attendance, infectious disease history, and occupation of parents, are filled in before the Medical Officer arrives. The head teacher also notifies the parents of the date of

inspection and requests them to be present. The eyesight of children over six is tested by Snellen's types, and those whose vision is worse than six-ninths are referred for further examination by the Medical Officer.

The basis on which children were selected for examination was that suggested by the Board of Education in their Memorandum, namely, those children entering school for the first time during the year 1908, and those likely to leave school before 31st July, 1909. This method of selection if followed in the future is likely to prove troublesome, and lead to some confusion in the grouping of children for examination. I therefore propose to select the children for examination during 1909 entirely on an age basis; for instance, during this year only those children will be examined whose 5th, 7th, or 13th birthdays fall within the year. By this method the children can be grouped with more precision, the selection being on an age basis the results will be more comparable and the keeping of records will be simplified.

ACTUAL INSPECTION.

The inspection was conducted in an empty class-room, or other room, and a good fire was always provided.

The Vicar of Batley kindly allowed the Parish Room adjoining the Parish School to be used for this purpose, as suitable arrangements could not be made in the school without upsetting the work to an unnecessary extent.

During the inspection the head teacher and the parent or guardian were present and gave valuable information, and also assisted in dressing and undressing the children. A very complete examination, at any rate in the first instance, is not attempted. Children are inspected rapidly, only so much of the clothing being removed as will permit the upper part of the chest and the heart to be examined; special attention is directed to eyesight, hearing, the condition of the teeth, nose, and throat, and the presence of rickets or deformities.

On an average sixteen to twenty children can be examined during a school session of two hours, sometimes twenty-five have

been examined in this time, but there is a risk of defects being overlooked if this rapid rate is maintained.

When a defect is discovered the parent's attention is drawn to it and a card of instructions is given. The following is one of a series of cards used for this purpose:—

Batley Education Committee

SECTION 13 EDUCATION ACT, (1907.)

MOUTH BREATHING.

To the Parents or Guardians of.....

This child has developed the habit of mouth breathing owing to

.....
Any condition which prevents free breathing through the nose leads to deformity of the nose, face, roof of mouth, and chest, and, in addition, seriously interferes with mental development.

You are strongly urged in the best interests of the child, to consult a Doctor without delay, and have this condition remedied.

Signed.....

Medical Officer.

It is most important, as a guide to future action, that the facts revealed by inspection should be carefully collected and grouped together in a way that will permit a rapid analysis to be made and accurate inferences to be drawn.

An attempt has been made to collect in tabular form the results of the inspection during the year, but too much weight must not be attached to these tables. The figures are too small to warrant accurate deduction, and are only intended to be the beginning of a series of annual tables which will each year increase in value and indicate the lines along which action of a remedial or preventive nature should be taken.

Table 2 is added for the purpose of comparison. It contains an analysis of the defects found in each of the seven schools examined.

DEFECTS FOUND.	PARK ROAD		ST. MARY'S		PARISH		STAINCLIFFE		HEALEY		PURLWELL		FIELD LANE	
	No. found def'ct'v'e	Ratio per cent.	No. found def'ct'v'e	Ratio per cent.	No. found def'ct'v'e	Ratio per cent.	No. found defective	Ratio per cent.	No. found def'ct'v'e	Ratio per cent.	No. found def'ct'v'e	Ratio per cent.	No. found defective	Ratio per cent.
Clothing ...	37	25.0	20	16.2	5	4.4	6	6.6	4	3.9	8	4.5	3	6.8
Nutrition ...	27	18.2	18	14.6	16	14.1	19	21.1	9	8.9	20	11.4	7	15.9
Verminous Head ...	13	8.7	21	17.0	1	0.8	6	6.6	8	7.9	7	4.0	1	2.2
Cleanliness ...	16	10.8	29	23.5	6	5.3	9	9.9	7	6.9	23	13.2	10	22.7
Adenoids ...	12	8.1	1	0.8	2	1.7	1	1.1	1	0.9	3	1.7	1	2.2
Enlarged Tonsils ...	19	12.8	4	3.2	4	3.5	8	8.8	11	10.8	20	11.4	7	15.9
Enlarged Glands ...	22	14.8	10	8.1	5	4.4	5	5.5	3	2.9	3	1.7	4	9.0
Teeth all good ...	21	14.1	21	17.0	12	10.6	13	14.4	18	17.8	20	11.4	12	27.2
„ 1—4 defective ...	67	45.2	56	45.5	51	45.1	47	52.2	43	42.5	80	45.9	17	38.6
„ 4—9 „ ...	48	32.4	44	35.7	45	39.8	29	32.2	36	35.6	67	38.5	14	31.8
„ all defective ...	9	6.0	2	1.6	5	4.4	1	1.1	4	3.9	7	4.0	1	2.2
External Eye Diseases ...	13	8.7	9	7.3	4	3.5	5	5.5	8	7.9	6	3.4	2	4.5
Defective Sight ...	19	15.9	13	16.4	14	20.3	*60	23.3	7	12.7	19	19.1	—	—
Defective Speech ...	13	8.7	5	4.0	4	3.5	5	5.5	1	0.9	3	1.7	—	—
Ear Disease ...	2	1.3	6	4.8	4	3.5	4	4.4	4	3.9	10	5.7	2	4.5
Defective Hearing ...	7	4.7	9	7.3	7	6.1	6	6.6	3	2.9	15	8.6	1	2.2
Mental Condition Backward ...	23	15.5	12	9.7	5	4.4	5	5.5	—	—	18	10.3	1	2.2
„ „ Defective ...	1	0.6	1	0.8	—	—	1	1.1	1	0.9	1	0.5	—	—
Disease of Heart ...	3	2.0	—	—	6	5.3	5	5.5	—	—	7	4.0	—	—
„ Lungs ...	3	2.0	—	—	5	4.4	—	—	3	2.9	5	2.8	1	2.2
„ Nervous System ...	—	—	—	—	—	—	—	—	1	0.9	1	0.5	—	—
Tuberculosis Pulmonary ...	1	0.6	—	—	—	—	—	—	—	—	—	—	—	—
„ Osseous ...	2	1.3	—	—	—	—	—	—	—	—	1	0.5	1	2.2
„ Glands ...	4	2.6	—	—	—	—	—	—	2	1.9	—	—	—	—
Rickets ...	12	8.1	3	2.4	11	9.7	6	6.6	3	2.9	10	5.7	5	11.3
Deformities ...	8	5.4	6	4.8	11	9.7	9	9.9	8	7.9	14	8.0	6	13.6
Skin Disease ...	7	4.7	5	4.0	3	2.6	3	3.3	2	1.9	12	6.8	1	2.2
Infectious or Contagious Disease	9	6.0	2	1.6	2	1.7	3	3.3	6	5.9	3	1.7	3	6.8
Other Disease or Defect ..	1	0.6	3	2.4	4	3.5	4	4.4	1	0.9	2	1.1	2	4.5
Unvaccinated ...	66	44.6	54	43.9	26	23.0	38	42.2	31	30.6	70	40.2	10	22.7
Mother goes out to work ...	4	2.6	51	41.4	12	10.6	7	7.7	11	10.8	23	13.2	9	20.4
Free from classified defect excluding defective teeth ...	45	30.4	43	34.9	54	47.7	37	41.1	52	51.4	82	47.1	20	45.4
Total number examined ...	148		123		113		90		101		174		44	

* These figures represent all the children aged seven years or over in the school.

Table 1. Gives a summary of the defects found in the seven schools examined, the children being classified according to age-group and sex.

DEFECTS FOUND.	1st. Examination.				4th. Examination.				Totals.	
	No. found		ratio %		No. found		ratio %		No.	%
	B	G	B	G	B	G	B	G		
Clothing	11	9	7.4	5.3	36	27	15.5	11.0	83	10.4
Nutrition	28	20	18.9	11.8	34	34	14.6	13.9	116	14.6
Vermineous Head	6	28	4.0	16.5	8	17	3.4	6.9	59	7.4
Cleanliness	12	28	8.1	16.5	24	36	10.3	14.7	100	12.6
Adenoids	5	—	3.3	—	6	10	2.5	4.0	21	2.6
Enlarged Tonsils	11	15	7.4	8.8	23	35	9.9	14.3	84	10.5
Enlarged Glands	8	12	5.4	7.1	12	20	5.1	8.1	52	6.5
Teeth all good	34	41	22.9	24.2	16	15	6.8	6.1	106	13.3
„ 1-4 defective	44	65	29.7	38.4	111	141	47.8	57.7	361	45.5
„ 4-9 „	44	54	29.7	31.9	102	83	43.9	34.0	283	35.6
„ all „	14	8	9.4	4.7	2	5	0.8	2.0	29	3.6
External Eye Diseases	7	8	4.6	4.7	13	19	5.6	7.7	47	5.9
Defective Sight	—	—	—	—	58	74	17.5	21.1	132	19.3
Defective Speech	6	2	4.0	1.1	9	14	3.8	5.7	31	3.9
Ear Disease	4	7	2.7	4.1	10	11	4.3	4.5	32	4.0
Defective Hearing	4	9	2.7	5.3	18	17	7.7	6.9	48	6.0
Mental Condition										
Backward	7	—	4.6	—	28	29	12.0	11.8	64	8.1
Defective	3	—	2.0	—	—	2	—	0.8	5	0.6
Disease of Heart	2	1	1.2	0.5	6	12	2.5	4.9	21	2.6
„ Lungs	7	7	4.6	4.1	2	1	0.8	0.4	17	2.1
„ Nervous System	—	—	—	—	—	2	—	0.8	2	0.2
Tuberculosis										
Pulmonary	—	—	—	—	—	1	—	0.4	1	0.1
Osseous	1	—	0.6	—	2	1	0.8	0.4	4	0.5
Glands	—	2	—	1.1	2	2	0.8	0.8	6	0.7
Rickets	21	16	14.1	9.4	10	3	4.3	1.2	50	6.3
Deformities	23	19	15.5	11.2	14	6	6.0	2.4	62	7.8
Skin Diseases	9	9	6.0	5.3	10	5	4.3	2.0	33	4.1
Infectious or Con- tagious Disease	9	9	6.0	5.3	5	5	2.1	2.0	28	3.5
Other Diseases or Defects	2	3	1.2	1.7	5	5	2.1	2.0	15	1.8
Unvaccinated	40	41	27.0	24.2	102	112	43.9	45.9	295	37.2
Mother goes out to work	24	27	16.2	15.9	31	35	13.3	14.3	117	14.7
Free from classified defect excluding defective teeth	76	94	51.3	55.6	100	95	43.1	38.9	365	46.0
Total number examined	148	169			232	244			793	

Table 3. Shows the number of “non-routine” cases examined and the conditions found.

The term “non-routine” refers to children presented by the teachers or parents, on account of some obvious defect, and not belonging to the groups scheduled for “routine inspection.”

DEFECTS	Name of School			
	Staincliffe	Healey	Purlwell	Field Lane
Rickets	7	2	9	3
Nutrition	3	—	1	—
Verminous Head	3	—	3	—
Large Tonsils	6	2	2	1
Skin Disease	3	1	1	—
Ear Disease	2	2	7	2
Defective Hearing				
Mentally Backward	1	—	1	—
„ Defective	—	3	1	—
Deformities	2	3	4	3
Eye Disease and	21	6	9	1
Defective Vision				
Mouth Breathing	7	6	2	2
Speech Defective	—	2	2	1
Heart & Lung Disease	—	—	—	1
Other Diseases	—	4	3	—
Total number of children examined	67	23	32	13

EXPLANATORY NOTES AND OBSERVATIONS ON THE PREVIOUS TABLES.

CLOTHING.

This refers to the ordinary indoor clothing, and includes boots and stockings. A child is considered defective in this respect if it is without boots and stockings, or if the clothing is ragged and torn, or insufficient in amount.

10.4 per cent. of the children examined were insufficiently clothed.

NUTRITION.

The question of nutrition is an important one, and in estimating it the age, height, weight, and general appearance are all taken into consideration as well as the existence of disease. 14.6 per cent. of the children were defective in this respect.

VERMINOUS HEADS.

Children are not placed in this group unless pediculi are seen in the hair at the time of examination. A "nitty" head is not regarded for the purpose of these tables as a verminous head. The condition is confined mainly to the girls, and is a deplorable one, being frequently associated with other evidence of neglect at home.

The Children's Act, 1908, which comes into force on 1st April, 1909, contains a section dealing with verminous children attending Public Elementary Schools.

This section (122) gives power to a Local Education Authority to require the parent or guardian of a child in a verminous condition to cleanse within 24 hours the body and clothing of the child.

Should the parent or guardian fail to do so, the Education Authority have power to remove the child to suitable premises and carry out the necessary cleansing.

Where, after such cleansing by the Local Education Authority, the child is again allowed to become verminous, the parent or guardian will be liable, on summary conviction, to a fine not exceeding 10s.

CLEANLINESS.

A child is classified as defective in this respect if its skin or clothes are dirty. 100 children or 12.6 per cent. of those examined were returned as not being sufficiently clean. Parental neglect and unsatisfactory home conditions is the lot of the children who comprise this group. The cleanliness of a child is a safe index to the amount of care and attention bestowed on it by the parents.

Owing to the lavatory accommodation provided in each school there is now no excuse for a child to be found with dirty hands or face, if, in addition, a full bath was available at 1 or 2 of the schools it would lead to those children having their bodies properly washed who are now neglected in this respect.

TEETH.

The children examined have been classed in four groups according to the condition of their teeth.

Group (1) contains all children who have a complete set of teeth with no signs of decay.

Group (2) contains those who have 1 to 4 decaying teeth.

Group (3) contains those who have 4 to 9 decaying teeth.

Group (4) contains those who have no teeth or only decaying stumps.

From the table we see that about 13 per cent of the children have a full set of sound teeth, while 86 per cent. have one or more decaying teeth.

DEFECTIVE EYESIGHT.

A child is placed in this group if it cannot read the line marked 6-9ths on Snellen's test card, at a distance of twenty feet. The percentage of those examined whose vision was worse than 6-9ths ranged from 12.7 in Healey School to 23.3 in Staincliffe School.

It is noteworthy that the three schools where the lighting arrangements are most deficient, show the highest percentage of children with defective vision.

MENTAL CONDITION.

The children included under this heading are divided into two groups. The first group contains those that are merely backward, the second group those mentally deficient. Five children were met with in the latter group, and three of these are so defective that it is a waste of time trying to teach them in the ordinary way.

RICKETS.

The proportion of children found suffering from rickets is very high, and in many of the children this disease has produced gross and unsightly deformities of a permanent kind which will seriously handicap them throughout life. It is a condition which is most inimical to physical development, it lessens the stature, impairs vitality, interferes with reproduction, and generally leads to degeneracy.

Unfortunately we are still ignorant of the exact cause of this disease. It is variously attributed to improper feeding, want of fresh air, insufficient exercise, bronchial irritation, hereditary influences, etc. Enquiries were made into the home conditions of sixty of the children suffering from Rickets, but no very close relationship between overcrowding, or the fact of the mother going out to work could be established. (See under "Accommodation in the Homes.")

VACCINATION.

37.2 per cent. of the children examined are unvaccinated. There is a wide difference between the age-groups 5 and 13 in this respect, 25 per cent. of the children in age-group 5 being unvaccinated, whereas 44.9 per cent. of those in age-group 13 have not been vaccinated. The larger number of the younger children who are protected by vaccination is probably due to an outbreak of Small Pox some 4 or 5 years ago.

TABLES OF HEIGHTS AND WEIGHTS.

The accompanying tables give the average heights and weights of the children examined in each of the seven schools, classified according to age and sex.

The children were measured without their boots and in ordinary indoor clothing.

The measurements are expressed in inches and pounds, and the final averages are expressed in metric measure as required by the Board of Education.

In order to compare these averages at each age with the corresponding averages for the children of England and Wales as a whole, I have given the results of a large number of statistics from various parts of the country.

It will be seen that the averages both for height and weight of the Batley children are below those of the country generally at all the ages and in both sexes.

The figures are perhaps too few to justify comparison, moreover, in certain of the age-groups while they represent the averages of the children examined, they do not represent the average of all the children in that age-group in the school. For instance age-group 6 to 7 consists of children who did not commence school until 6 years of age; the reason for this delay in commencing school being in most cases bad health. The average of this group will, therefore, not be a correct average for the school.

TABLE OF HEIGHTS AND WEIGHTS—GIRLS.

				AGE LAST BIRTHDAY.																	
Name of School.				4			5			6			11			12			13		
				Number examined	Average height in inches.	Average weight in pounds.	Number examined.	Average height in inches.	Average weight in pounds.	Number examined.	Average height in inches.	Average weight in pounds.	Number examined.	Average height in inches.	Average weight in pounds.	Number examined.	Average height in inches.	Average weight in pounds.	Number examined	Average height in inches.	Average weight in pounds.
Park Road	...	...	...	9	37 $\frac{3}{4}$	34	6	38 $\frac{1}{2}$	34 $\frac{3}{4}$	—	—	—	—	—	—	40	53 $\frac{3}{4}$	68 $\frac{3}{4}$	15	54 $\frac{1}{4}$	70
St. Mary's	...	...	...	22	35 $\frac{1}{2}$	31 $\frac{3}{4}$	5	37 $\frac{1}{4}$	32 $\frac{1}{2}$	—	—	—	—	—	—	32	53 $\frac{3}{4}$	69 $\frac{3}{4}$	4	52 $\frac{1}{4}$	68 $\frac{1}{2}$
Healey	...	...	...	9	37 $\frac{1}{2}$	32 $\frac{3}{4}$	14	39	36	2	42 $\frac{1}{4}$	40 $\frac{1}{2}$	6	54	69 $\frac{1}{2}$	20	53 $\frac{1}{2}$	68	7	55 $\frac{1}{4}$	72 $\frac{1}{4}$
Purlwell	...	...	...	15	38 $\frac{3}{4}$	34 $\frac{1}{2}$	13	39 $\frac{1}{4}$	36 $\frac{3}{4}$	4	42 $\frac{1}{2}$	41	1	48	62 $\frac{1}{2}$	45	53 $\frac{3}{4}$	68 $\frac{3}{4}$	4	54 $\frac{1}{2}$	72
Parish Church	...	...	...	14	38	34 $\frac{1}{2}$	12	39 $\frac{3}{4}$	34 $\frac{1}{4}$	—	—	—	—	—	—	35	54 $\frac{3}{4}$	71 $\frac{1}{4}$	4	54 $\frac{1}{2}$	71 $\frac{1}{2}$
Staincliffe	...	...	...	10	38 $\frac{1}{4}$	34 $\frac{1}{4}$	10	41 $\frac{1}{4}$	37 $\frac{1}{2}$	2	39	31 $\frac{1}{4}$	3	51 $\frac{1}{2}$	63 $\frac{1}{4}$	22	53 $\frac{3}{4}$	68 $\frac{1}{4}$	6	54 $\frac{3}{4}$	70
Field Lane	...	...	...	15	36 $\frac{3}{4}$	31 $\frac{1}{2}$	6	40 $\frac{1}{4}$	36 $\frac{1}{2}$	—	—	—	—	—	—	—	—	—	—	—	—
Average for the Seven Schools	...	...	...	94	37 $\frac{1}{4}$	33	66	40 $\frac{1}{2}$	35 $\frac{3}{4}$	8	41 $\frac{1}{2}$	38 $\frac{1}{4}$	10	52 $\frac{1}{2}$	66 $\frac{3}{4}$	194	53 $\frac{3}{4}$	69 $\frac{1}{4}$	40	54 $\frac{1}{2}$	70 $\frac{3}{4}$
Average of a large number of Statistics	...	...	...	—	—	—	—	41.0	39.6	—	43.0	42.8	—	53.3	68.5	—	55.8	77.3	—	57.9	87.8
Averages expressed in Metric Measure (Centimetres and Kilo- grammes)					cm.	kg.		cm.	kg.		cm.	kg.		cm.	kg.		cm.	kg.		cm.	kg.
(a) for the Seven Schools	...	...	...	—	94 $\frac{1}{2}$	15	—	102 $\frac{1}{2}$	16 $\frac{1}{2}$	—	106 $\frac{1}{2}$	17 $\frac{1}{2}$	—	133	30 $\frac{1}{2}$	—	137	31 $\frac{1}{2}$	—	139	32
(b) for a large number of Statistics	...	...	...	—	—	—	—	104	18	—	109 $\frac{1}{2}$	19 $\frac{1}{2}$	—	136	31	—	142 $\frac{1}{2}$	35	—	147 $\frac{1}{2}$	40

TABLE OF HEIGHTS AND WEIGHTS—BOYS.

			AGE LAST BIRTHDAY.																	
Name of School.			4			5			6			11			12			13		
			Number examined	Average height in inches.	Average weight in pounds.	Number examined.	Average height in inches.	Average weight in pounds.	Number examined.	Average height in inches.	Average weight in pounds.	Number examined.	Average height in inches.	Average weight in pounds.	Number examined.	Average height in inches.	Average weight in pounds.	Number examined	Average height in inches.	Average weight in pounds.
Park Road	...	...	7	36 $\frac{3}{4}$	34	6	39	36 $\frac{1}{2}$	1	36 $\frac{1}{4}$	30	2	53 $\frac{3}{4}$	66 $\frac{1}{2}$	38	53 $\frac{1}{2}$	69 $\frac{3}{4}$	24	53 $\frac{3}{4}$	71
St. Mary's	...	...	14	37	33 $\frac{1}{4}$	3	38 $\frac{1}{4}$	32	—	—	—	—	—	—	34	52 $\frac{1}{4}$	67 $\frac{3}{4}$	9	54 $\frac{1}{4}$	74 $\frac{3}{4}$
Healey	...	...	11	37 $\frac{3}{4}$	33 $\frac{1}{2}$	9	39 $\frac{3}{4}$	37	1	42	38	4	49 $\frac{3}{4}$	53 $\frac{1}{4}$	14	52 $\frac{1}{4}$	66	4	55	66
Purlwell	...	...	21	38 $\frac{1}{4}$	35 $\frac{1}{4}$	21	39 $\frac{3}{4}$	38	1	36	30 $\frac{1}{2}$	2	56	75	45	54 $\frac{3}{4}$	70 $\frac{1}{2}$	2	57	85 $\frac{1}{2}$
Parish Church	...	...	11	38 $\frac{3}{4}$	33 $\frac{1}{4}$	6	42 $\frac{3}{4}$	36 $\frac{1}{2}$	—	—	—	—	—	—	26	54 $\frac{1}{4}$	67 $\frac{3}{4}$	4	56	76 $\frac{1}{4}$
Staincliffe	...	...	6	38	33 $\frac{1}{4}$	4	41 $\frac{1}{4}$	39 $\frac{1}{4}$	3	41 $\frac{3}{4}$	40 $\frac{1}{4}$	1	54 $\frac{1}{2}$	63 $\frac{1}{2}$	22	53 $\frac{1}{4}$	68 $\frac{1}{4}$	1	60	76 $\frac{1}{2}$
Field Lane	...	...	18	38 $\frac{3}{4}$	34 $\frac{1}{2}$	4	37 $\frac{1}{2}$	35 $\frac{1}{4}$	1	42	40	—	—	—	—	—	—	—	—	—
Average for the Seven Schools	...	...	88	38	34	53	39 $\frac{3}{4}$	37	7	40 $\frac{1}{2}$	36	9	52 $\frac{1}{2}$	63 $\frac{1}{4}$	179	53 $\frac{3}{4}$	68 $\frac{3}{4}$	44	54 $\frac{1}{2}$	73 $\frac{1}{4}$
Average of a large number of Statistics	...	...	—	—	—	—	41.2	40.5	—	43.9	44.8	—	53.5	71.1	—	54.9	76.8	—	57.1	83.7
Averages expressed in Metric Measure (Centimetres and Kilo- grammes)				cm.	kg.		cm.	kg.		cm.	kg.		cm.	kg.		cm.	kg.		cm.	kg.
(a) for the Seven Schools	...	...	—	97	15 $\frac{1}{2}$	—	101 $\frac{1}{2}$	17	—	103 $\frac{1}{2}$	16 $\frac{1}{2}$	—	133	28 $\frac{1}{2}$	—	137	31 $\frac{1}{2}$	—	139	33
(b) for a large number of Statistics	...	...	—	—	—	—	104	18 $\frac{1}{2}$	—	112	20 $\frac{1}{2}$	—	136	32	—	140	35	—	145	38

INFECTIOUS DISEASES.

The measures adopted to deal with infectious diseases in the schools are as follows:

As soon as the Health Department is notified of the existence of infectious disease in a house, any children attending school from this house are requested to be excluded, and a notice to this effect is sent to the Head Teacher of the School and to the Director of Education. When the house is free from infection the Head Teacher and Director of Education are again notified that the children may return to school. In addition to the above measures, which act very well in the case of diseases that have to be notified by Medical men, arrangements have been made whereby the Head Teachers and Attendance Officers notify to the Medical Officer any child suffering (or they have reason to suspect is suffering) from Scarlet Fever, Diphtheria, Chicken Pox, Mumps, Measles, or Whooping Cough. On the receipt of such a notification the child is visited, the notification confirmed or corrected, and appropriate steps taken to deal with the illness.

In order to ascertain what proportion of school children have previously suffered from infectious diseases, a record is kept of the "infectious disease history" of each child examined. The following table contains this information for all the children examined during 1908.

We see from this table that of 793 children examined 647 have been attacked by Measles, a percentage of 81.5. We further learn that of these 647, 71 per cent. suffered from the disease before attaining the age of 5 years, that is to say before commencing school. Similarly in the case of Whooping Cough 74 per cent. of those who suffered from Whooping Cough contracted the disease before entering school. This information should make one hesitate before closing a department on account of an outbreak of these diseases.

Only 86 children gave a history of having had an attack of Scarlet Fever, a percentage of 10.8.

3.5 per cent. had suffered from Diphtheria, 24.9 per cent. from Chicken Pox, and 15.3 per cent. from Mumps.

The value of this information is obvious, since the numbers of those who already suffered, and who in consequence are to be regarded as immune from a future attack, would be a valuable guide to procedure in the event of an outbreak of such infectious illness arising in a school. By learning the amount of susceptible material we can gauge the probable extent and duration of an outbreak.

During the inspections the following infectious and contagious diseases were discovered :—

	Cases.
Diphtheria	3
Whooping Cough	1
Chicken Pox	5
Mumps	2
Ringworm	12
Impetigo	4
Scabies	5

When a case of Diphtheria is found an examination is made of the immediate *contacts*, and if any are found carrying the bacillus of Diphtheria they are excluded. Children who have suffered from Diphtheria must furnish one negative bacteriological examination before they are allowed to return to school.

Table 6.

	MEASLES.				SCARLET FEVER				DIPHTHERIA.				WHOOPIING COUGH.				CHICKEN POX.				MUMPS.			
Ages.	No. Involved.		% of those examined who have had the disease.		No. Involved.		% of those examined who have had the disease.		No. Involved.		% of those examined who have had the disease.		No. Involved.		% of those examined who have had the disease.		No. Involved.		% of those examined who have had the disease.		No. Involved.		% of those examined who have had the disease.	
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
0—1	5	11	1.3	2.6	1	—	0.2	—	—	—	—	—	9	5	2.3	1.2	—	3	—	0.7	1	—	0.2	—
1—2	22	20	5.7	4.8	4	3	1.0	0.7	1	—	0.2	—	14	19	3.6	4.6	5	9	1.3	2.1	3	2	0.7	0.4
2—3	40	50	10.5	12.1	5	2	1.3	0.4	—	1	—	0.2	25	37	6.5	8.9	16	20	4.2	4.8	7	2	1.8	0.4
3—4	72	71	18.9	17.1	8	5	2.1	1.2	4	2	1.0	0.4	28	31	7.3	7.5	20	22	5.2	5.3	3	1	0.7	0.2
4—5	87	87	22.8	21.0	4	5	1.0	1.2	1	2	0.2	0.4	25	21	6.5	5.0	11	20	2.8	4.8	12	12	3.1	2.9
5—6	30	46	7.8	11.1	3	5	0.7	1.2	2	1	0.5	0.2	17	26	4.4	6.2	18	16	4.7	3.8	5	8	1.3	1.9
6—7	21	24	5.5	5.8	1	5	0.2	1.2	2	1	0.5	0.2	5	9	1.3	2.1	1	9	0.2	2.1	10	8	2.6	1.9
7—8	9	19	2.3	4.6	3	5	0.7	1.2	5	4	1.3	0.9	2	5	0.5	1.2	4	5	1.0	1.2	2	4	0.5	0.9
8—9	7	7	1.8	1.6	3	4	0.7	0.9	—	—	—	—	3	3	0.7	0.7	2	5	0.5	1.2	1	1	0.2	0.2
9—10	4	4	1.0	0.9	6	8	1.5	1.9	—	—	—	—	1	—	0.2	—	1	4	0.2	0.9	4	10	1.0	2.4
10—11	—	1	—	0.2	1	1	0.2	0.2	—	—	—	—	—	3	—	0.7	2	1	0.5	0.2	4	6	1.0	1.4
11—12	1	5	0.2	1.2	1	2	0.2	0.4	—	—	—	—	—	—	—	—	2	1	0.5	0.2	3	4	0.7	0.9
12—13	1	3	0.2	0.7	—	1	—	0.2	—	2	—	0.4	—	—	—	—	1	—	0.2	—	3	6	0.7	1.4
Totals	299	348	78.6	84.2	40	46	10.5	11.1	15	13	3.9	3.1	129	159	33.9	38.4	83	115	21.8	27.8	58	64	15.2	15.4
Totals and Percentages of all Examined (793).	647		81.5		86		10.8		28		3.5		288		36.3		198		24.9		122		15.3	

Cases of Scabies are excluded from school, and as soon as possible after exclusion arrangements are made to give them a Sulphur Bath at the disinfecting station, and at the same time their clothing is subjected to steam disinfection. They are then allowed to return to school.

A diagnosis of Ringworm is only made after a microscopic examination, and these cases are excluded from school until a subsequent examination of the hairs fails to show the spores of the disease. This means that cases of Ringworm of the Scalp will be excluded from school for a period of 12 to 18 months or longer, unless X-ray treatment is obtained. Exclusion for such a prolonged period will seriously interfere with the education of the child, reduce the average attendance at the school, and lead to a loss in annual grant.

There appears to be some danger of the question of "average attendance" interfering to some extent with the measures devised for preventing the spread of infectious disease. Teachers and Attendance Officers are very keen on keeping up a high average attendance, and this leads sometimes to children attending school who are obviously unwell. Two or three such cases came under my observation. In checking the spread of infectious disease it is very important that the teacher should early recognise the initial symptoms and promptly exclude the child. Prompt exclusion in the early stage of infectious illness will often prevent an epidemic.

In this connection it is much to be regretted that the "epidemic grant" allowed by the Education Code, 1903, article 101, has been withdrawn. The clause referred to was a very valuable one, and provided that absences of children from school on account of infectious illness should not be deducted from the record of attendances, and consequently a loss in annual grant was not incurred.

It is hoped that the Board of Education will again introduce a similar provision to that referred to in the Code of 1903. It would be a valuable aid to the other measures adopted with the object of checking the spread of infectious illness, and protecting the health of the children, and financial considerations should not be allowed to stand in the way.

Table 5. ACCOMMODATION IN THE HOMES.

No. of rooms per Tenement.	No. of persons per Tenement.												Total
	1	2	3	4	5	6	7	8	9	10	11	12 or more	
1				1	1								2
2		3	37	41	57	36	15	20	5		1		215
3			18	48	55	53	32	14	17	5	7	2	251
4			9	21	15	24	14	17	9	4	—	2	115
5 or more.			1	17	20	10	10	12	10	5	3	4	92

The above table shows the number of rooms and number of persons in the homes of the children examined. On the basis that more than 3 persons per room is overcrowding, all the houses to the right of the dark line in the table are overcrowded.

32 per cent. of the houses are 2 room dwellings, 37 per cent. have 3 rooms, 17 per cent. 4 rooms, and 13.6 per cent. have 5 or more rooms. This proportion of 2, 3, and 4 room houses corresponds very closely with that obtained in the 1901 census for the total houses in the Borough.

It will be seen that the accommodation within the homes is not very abundant, the principle of building the houses back-to-back is responsible for this want of accommodation and for the large number of 2 and 3 room dwellings.

In order to determine whether any relation exists between overcrowding in the homes and defects in the children, I classified the defective children according to the number of rooms and number of occupants per house, but the figures do not indicate that defects are more prevalent in the overcrowded houses.

The following table shows the relation between the defective children and the number of rooms in the house.

	2 room houses	3 room houses	4 room houses	5 or more room houses
Total number examined classified according to the number of rooms in the home ...	32.0%	37.0%	17.0%	13.6%
398 defective children classified according to the number of rooms in the home ...	35.9%	35.9%	16.0%	11.8%
60 cases of Rickets classified according to the number of rooms in the home ...	40.0%	28.3%	16.6%	15.0%
59 cases of Verminous Heads classified according to the number of rooms in the home ...	55.0%	32.5%	2.5%	10.0%

It is only in the group of children with verminous heads that the number of rooms per house appears to exert any great influence. 69 per cent. of all the children examined came from 2 or 3-room houses, whereas 87.5 per cent. of the children with verminous heads came from 2 and 3-room houses.

Probably the more correct way to show the influence of the accommodation within the homes would be to take the children from 4 and 5-room dwellings and compare them as regards defects with an equal number from 2 and 3-room dwellings, but the figures are as yet too small to permit of accurate deductions in this direction.

The number of children who lived in 4 or more room houses was 207, and 110 of these were defective, a percentage of 53.1. The number who lived in 2 or 3 room houses was 466, and 286 of these were defective, a percentage of 61.3. On this basis the children from the larger houses come out the better, but the difference is not so striking as might be expected.

WORK OF AMELIORATION.

The Education Committee recognised at an early stage that the work of inspection would have to be supplemented by treatment of the defects revealed by inspection, otherwise the Act would be barren.

In order, therefore, to formulate some scheme of treatment, the Mayor and the Chairman of the Education Committee held a conference to which were invited all the Medical Practitioners in the Borough, including the Honorary Staff of the Batley and District Hospital. The Doctors were asked to co-operate with the Education Committee in their efforts to meet the requirements of the Education Act, and to express their views as to the agencies that ought to be employed to remedy the defects found by medical inspection. Considerable difference of opinion existed as to the best means of dealing with the *defective* children, but, it was eventually decided that for the purpose of treatment these children should be divided into two groups. The first group consists of those whose parents are able to provide proper medical attendance, the second comprises those children whose parents are too poor to pay for suitable treatment. The first group are referred by the School Medical Officer to their family Doctor, the second group are advised to go to the Batley and District Hospital.

The Hospital Committee and Honorary Medical Staff have made special arrangements to cope with the increased work.

“The Committee have fitted up and fully equipped a Dental department, sufficient to meet all demands; and the Dental Surgeon has arranged to be in attendance at fixed days and hours to deal with cases presented to him. A room has also been fitted up with all the apparatus required to deal with throat, eye and ear cases, and the Honorary Staff are prepared to deal with all such cases sent to Hospital.”

I understand that the purchase of an X-ray apparatus for the purpose of treating Ringworm of the scalp, is under consideration.

It is too soon to express any opinion regarding the efficiency of these arrangements, for the present they must be regarded as an experiment.

SCHOOL BUILDINGS AND SURROUNDINGS.

The seven schools examined during 1908 are good substantial buildings, well situated, and, with the exceptions mentioned below, are in a satisfactory condition as regards heating, lighting, and ventilation.

The playgrounds attached to the schools are fairly large, the surfaces asphalted and well drained.

In the case of St. Mary's School and the School at Staincliffe, only part of the surface is asphalted.

The approach to St. Mary's School and the playgrounds are somewhat spoiled by the close proximity of property in a poor state of repair. At the time of my inspection the sanitary conveniences belonging to this property were a serious danger to the health of the school children; they encroached on the playgrounds, and being privy middens their contents were thrown on the unpaved portion of the playground at the time of cleansing. These insanitary closets have either been abolished or converted into sanitary water closets. The unpaved portion of the playground should be asphalted and proper provision made for carrying away the surface water.

LIGHTING.

The large proportion of children found to be suffering from short sight, makes the question of lighting one of very great importance. There is little doubt that many of the cases of defective vision are due to faulty or deficient illumination of the class rooms, bad arrangement of the desks, and perhaps in the case of girls, very fine needlework.

The lighting arrangements at the various schools are as follows:—

STAINCLIFFE SCHOOL.

The lighting at Staincliffe School is particularly bad, both departments being deficient in this respect. In the mixed department, class-room B has no windows, the only means for admitting light to this room is some ribbed glass in the roof. Two large windows ought to be provided in the external wall of this room.

The main class-room, mixed department, although provided with windows on both sides, receives practically all its light from skylights. The windows are small, the glass is not clear, and is divided up into very small diamond panes, and on one side of the room the entrance of light is obstructed by adjacent buildings; under these circumstances it is not surprising to find maps and other apparatus suspended over the windows, which are evidently regarded as useless for admitting light.

Whatever purpose of an architectural or decorative nature the windows in this school may serve, the "dim religious" light they afford does not improve the eyesight of the children or promote the cultivation of a healthy mind.

PURLWELL SCHOOL.

Several of the class-rooms in this school are poorly lighted, many of the windows have the same non-translucent glass as is found in Staincliffe School. Clear glass should be substituted for this in every instance. The following two class-rooms require additional means of lighting:

Boys' Department—Class-room B.

Infants' Department—The class-room at the south end adjacent to the cloak room.

PARISH CHURCH SCHOOL.

There is room for improvement in the lighting arrangements of this school, especially in class-room C, Mixed Department, and class-room A, Infants' Department.

The schools at Field Lane and Healey are well lighted throughout.

Park Road and St. Mary's Schools are also well lighted, with the exception of the following class-rooms:

Park Road—Boys' Department, class-room F.

St. Mary's School—Mixed Department, class-room A.

St. Mary's School—Infant Department, class-room 2.

VENTILATION.

Good health depends to a large extent on a constant and abundant supply of fresh air, uncontaminated by individuals or any hurtful matter. This being so the efficiency of the arrangements for introducing fresh air into the schools and removing the air already fouled by the products of respiration, will have an important influence on the health of the school child.

At the present time the question of school ventilation is being widely discussed, and there are indications that some of our accepted views on this matter require re-adjustment. Schools ventilated by elaborate mechanical systems have not been in every instance a success, and there is in consequence an inclination to return to a type of school which will permit of ventilation by "natural" and less expensive methods.

Dr. Reid has introduced a new plan for school buildings, known as the "Staffordshire type of school," which is attracting considerable attention. The general arrangement and design of this school closely resembles an isolation hospital, the buildings are single storey pavilions and afford maximum facilities for lighting and ventilation. The plan allows of cross window ventilation, and, with the exceptions of openings in the walls behind low pressure radiators, the windows with hopper openings are the only means of ventilation provided. Dr. Reid has shown that the air can always be maintained at a very high degree of purity in this school, and as regards cost of construction and administration he claims that it is much less than the "central hall" type.

The seven schools inspected during 1908 are ventilated by "natural" means, no mechanical power such as pumps, fans, etc., is employed, but the movement of the air is brought about by the natural forces of wind and variations in density. Ventilating apertures of various kinds are provided, but the principal inlets and outlets are the windows. This system acts very well in the summer time, but I found that during the cold weather many of the air inlets were closed up. The drawback to the system is the difficulty experienced in winter time of raising the incoming air to a proper temperature, with the result that inlets

are closed up in order to keep the class-rooms sufficiently warm. Another drawback is that for its efficiency it depends to a large extent on the constant supervision and personal views of the teacher.

The following schools or class-rooms are not adequately ventilated:—

- (1) Staincliffe School is much the worst in this respect, all the class rooms in this school require additional means for ventilation.

It is difficult to see how the main class room in the mixed department can at present be properly ventilated, unless some mechanical means such as an electric fan is used.

- (2) Purlwell School, Infant Department.—The class room at the north end requires additional air inlets.
- (3) Park Road School.—The ventilation in the Boys and Girls Departments would be improved if more of the windows were made to open.

AIR ANALYSIS.

Samples of air were taken in the schools at Staincliffe and Healey, and the degree of impurity, as indicated by the amount of carbonic acid present, was estimated. The estimation was made by Haldane's apparatus, and the following are the conditions under which the samples were collected, and the results:—

	STAINCLIFFE SCHOOL.	HEALEY SCHOOL.		
	Mixed Department.	Mixed Department.	Infants' Department.	
	main room.	main room.	Class-room B.	main room.
Date and time	22nd Dec., 1908, 2-20 p.m.	22nd Dec., 1908, 3-15 p.m.	22nd Dec., 1908, 3-50 p.m.	22nd Dec., 1908, 4-0 p.m.
Temperature	63° F	60° F		68° F
Wind	Fresh breeze, S.W.	Fresh breeze, S.W.	Fresh breeze, S.W.	Fresh breeze, S.W.
Gases burning	nil	2	5	8
Ventilators in use at time of test	2 air inlets in wall 1 in window 1 roof ventilator 2 doors open	3 air inlets in wall All windows and doors closed	2 windows open 1 inlet in wall 1 roof ventilator	6 inlets in walls 1 roof ventilator All windows and doors closed
Floor space per person in sq. ft.	9.4	16		
How long occupied	35 minutes	75 minutes	45 minutes	45 minutes
Vols. of CO ₂ per 10,000.	15	9	13	12

The amount of CO_2 in fresh air is about 4 parts per 10,000. any excess over this in the air of a room is regarded as an impurity, and is indicative of the extent to which the air has been fouled by exhalation from the lungs and bodies of the occupants. A room containing 6 parts of CO_2 per 10,000 due to respiration, smells slightly close to one entering from the fresh air, and this amount is usually regarded as the "maximum permissible impurity," the proportion that ought not to be exceeded. Very much lower standards than this have from time to time been laid down. Pettenkofer proposed a limit of 10 vols. per 10,000, and Carnelley, Haldane and Anderson a limit of 13 vols. per 10,000. It is certain that if such low standards as these are adopted in schools very serious injury will be inflicted on the children.

As a result of the analyses of the above samples of air we see that in both schools at the time the samples were taken the air was very impure, and, therefore, that the arrangements for ventilation were imperfect.

The present arrangements for ventilation at the Staincliffe School are very inadequate, and at the time the sample of air was taken were being used to the fullest extent.

In the case of the Healey School the conditions were different. Here, in addition to inlets in the walls and roof ventilators, all the windows are provided with hopper openings, moreover, the windows are in opposite walls and communicate directly with the external air. With such an arrangement there should not be any difficulty in maintaining the air in this school at a very high degree of purity.

The fact that on a cold winter day the temperature of one class room was 68°F , and all the windows were closed, indicates that at the time of collecting the sample the facilities for admitting fresh air were not being used to their fullest extent.

HEATING.

Six of the schools are heated on the low pressure system of hot water circulation, the pipes being carried round the walls of the class rooms and cloak rooms. The Staincliffe School is heated on the high pressure system.

The questions of proper heating and adequate ventilation are very closely connected, and great care and oversight will be required on the part of the head teacher to see that the temperature of the room is not raised by closing up fresh air inlets.

DESKS AND SCHOOL FITTINGS.

In every school examined there are two or three varieties of desk, some of a very old and faulty type, others of a newer and more suitable pattern.

The old desks are nearly all of the exaggerated "plus" variety, and produce a very faulty position, the head and body being thrown forward, and some of the important organs in the chest and abdomen being pressed upon or displaced and their functions interfered with.

The new desks are provided with supports for the back, and are either of the "zero" type or of the small plus variety. The "zero" or "plus" desk permits of rising up and sitting down with ease and freedom of movement, but, while sitting in the attitude of writing the "minus" desk gives the more correct position.

In the Infant Department at Purlwell School chairs of a very suitable kind have been provided for the younger children, these might be adopted with advantage in the Infant Departments of the other schools. Children under six do not require desks, they should be allowed to play about with stools or chairs and their movements restrained as little as possible.

CONDITION AS REGARDS REPAIRS.

The wooden floors at Staincliffe School are much worn and in parts defective, this remark also applies to the floors of the Purlwell School, Boys Department. With these exceptions the schools are in a good state of repair, clean, and well kept.

CLOAK ROOMS AND LAVATORY ACCOMMODATION.

Large, well ventilated, and well heated cloak rooms with separate lavatory accommodation, are provided at the Field Lane, Healey, St. Mary's, and Purlwell Schools.

The provision made for drying wet clothes consists of hot water pipes carried round the walls of the cloak rooms, and in most of the schools this arrangement is satisfactory. In the following schools the cloak room accommodation is not so satisfactory.

STAINCLIFFE SCHOOL.—The cloak rooms in the mixed department are small, badly lighted, and badly ventilated. The lavatory accommodation is insufficient, there being only two lavatory basins for the boys, and two for the girls, and these basins are in their respective cloak rooms.

PARISH CHURCH SCHOOL.—Mixed Department.—The Girls cloak room is too small, and the ventilation is very defective. The window lighting this cloak room should be made to open, at present the only inlet for air is through the door.

Infants Department.—This cloak room is not heated by hot water pipes, and there is no provision for drying wet clothes.

In many of the cloak rooms the arrangements for hanging the clothes would be much improved if metal ranges were placed in the centre of the room. These ranges are very suitable for cloaks, etc., and permit free circulation of air round the clothing and promote rapid drying when the clothes are wet.

SANITARY CONVENIENCES.

The sanitary conveniences of six of the schools examined are very satisfactory, new water closets having recently been provided for these schools. The accommodation is ample, and the closets are clean and well kept. The type of closet used is the separate unit "isola" closet.

At the Staincliffe School the conditions are very different, and are in marked contrast with the other six schools. Here the conveniences are privies of the worst type. I would respectfully urge the Education Committee to insist on these privies being abolished and sanitary water closets erected in their place.

OVERCROWDING.

Overcrowding to a serious extent exists at the Parish Church and Staincliffe Schools, and at neither of these schools are the lighting or ventilating arrangements so perfect as to warrant the accommodation being used even up to the limit prescribed by the Board of Education. The 10 sq. ft. basis is a low standard, and only permissible where the arrangement for ventilation is perfect. The following figures indicate the degree of overcrowding in these two schools:—

PARISH CHURCH SCHOOL.

Mixed Department, Class Room C, 8.5 sq. ft. floor space per child.		
Mixed Department, Class Room A, 8.0 sq. ft.	„	„
Mixed Department, Main Class Room, 9.2 sq. ft.	„	„
Infant Department, Class Room A, 4.8 sq. ft.	„	„
Infant Department, Main Class Room, 8.3 sq. ft.	„	„

STAINCLIFFE SCHOOL.

Mixed Department, Class Room A, 9.0 sq. ft.	„	„
Mixed Department, Class Room B, 7.7 sq. ft.	„	„

PHYSICAL EXERCISES.

GYMNASTICS.

All children receive “drill instruction” on the lines of the “Model Course of Physical Exercises” issued by the Board of Education. Many of the teachers have had special training in this subject, and are very enthusiastic in carrying out this part of their work. A drill-sergeant visits every school fortnightly, and gives instructions to the boys and teachers.

SWIMMING.

The Education Committee have made arrangements for the children in the elementary schools to attend the Corporation Baths free of charge during the summer months. The children are encouraged to go to the Baths, and swimming is taught by paid instructors.

REMEDIAL GYMNASTICS.

In those cases where physical defects or deformity exist special movements are recommended to be practised for the purpose of correcting the deformity.

SUMMARY OF IMPROVEMENTS AND ALTERATIONS SUGGESTED.

STAINCLIFFE SCHOOL.

New Sanitary Water Closets.

Additional windows.

Clear glass to be substituted for the ribbed glass at present in use .

Additional means for ventilation.

Floors repaired.

Playgrounds asphalted..

Additional lavatory accommodation.

PARISH CHURCH SCHOOL.

Girls cloak room to be enlarged.

Windows in cloak room made to open and air inlets and outlets provided.

Infants Cloak Room.

Provision to be made for heating.

PARK ROAD SCHOOL.

All the windows made to open in the Boys and Girls Departments.

Additional means for lighting Class Room F in the Boys Department.

PURLWELL SCHOOL.

The windows with ribbed glass to be provided with clear glass.

Floors repaired in the Boys Department.

Infants Department.

Class Room south end, adjacent to cloak room, to be better lighted.

Class Room north end to be better ventilated.

ST. MARY'S SCHOOL.

Mixed Department Class Room A additional means for lighting.

Infants Department, Class Room 2, additional means for lighting.

The unpaved portion of the playground to be asphalted and properly drained.

In conclusion, I wish to acknowledge my indebtedness to the Head Teachers, not only for the valuable assistance they have given me in carrying out the inspections, but also for the agreeable and ready way in which they have taken up a lot of new work which has been placed upon them.

I am, Ladies and Gentlemen,

Your obedient servant,

J. M. CLEMENTS.

APPENDIX.

The following Tables give a CLASSIFICATION of the DEFECTS found in the individual schools

They show for each school the total number of children examined at the *routine* inspection and the number and percentage of those examined found to be suffering from each class of defect.

The figures for boys and girls are given separately.

PARK ROAD SCHOOL.

DEFECTS FOUND.	1st. Examination.				4th. Examination.				Totals.	
	No. found		ratio %		No. found		ratio %		No.	%
	B	G	B	G	B	G	B	G		
Clothing	4	3	28.5	20.0	18	12	28.1	21.8	37	25.0
Nutrition	4	4	28.5	26.6	13	6	20.3	10.9	27	18.2
Vermineous Head	1	4	7.1	26.6	3	5	4.6	9.0	13	8.7
Cleanliness	2	2	14.2	13.3	6	6	9.3	10.9	16	10.8
Adenoids	—	—	—	—	4	8	6.2	14.5	12	8.1
Enlarged Tonsils	1	1	7.1	6.6	7	10	10.9	18.1	19	12.8
Enlarged Glands	1	3	7.1	20.0	8	10	12.5	18.1	22	14.8
Teeth all good	7	5	50.0	33.3	7	2	10.9	3.6	21	14.1
" 1-4 defective	4	3	28.5	20.0	29	31	45.3	56.3	67	45.2
" 4-9 "	—	3	—	20.0	25	20	39.0	36.3	48	32.4
" all "	2	3	14.2	20.0	2	2	3.1	3.6	9	6.0
External Eye Diseases	2	—	14.2	—	6	5	9.3	9.0	13	8.7
Defective Sight	—	—	—	—	8	11	12.3	20.0	19	15.9
Ear Disease	—	—	—	—	2	—	3.1	—	2	1.3
Defective Hearing	—	—	—	—	5	2	7.8	3.6	7	4.7
Defective Speech	1	1	7.1	6.6	5	6	7.8	10.9	13	8.7
Mental Condition										
Backward	1	—	7.1	—	17	5	26.5	9.0	23	15.5
Defective	1	—	7.1	—	—	—	—	—	1	0.6
Disease of Heart	—	—	—	—	1	2	1.5	3.6	3	2.0
" Lungs	—	1	—	6.6	1	1	1.5	1.8	3	2.0
" Nervous System	—	—	—	—	—	—	—	—	—	—
Tuberculosis										
Pulmonary	—	—	—	—	—	1	—	1.8	1	0.6
Osseous	—	—	—	—	1	1	1.5	1.8	2	1.3
Glands	—	1	—	6.6	1	2	1.5	3.6	4	2.6
Rickets	3	4	21.4	26.6	4	1	6.2	1.8	12	8.1
Deformities	3	3	21.4	20.0	—	2	—	3.6	8	5.4
Skin Diseases	2	1	14.2	6.6	4	—	6.2	—	7	4.7
Infectious or Con- tagious Disease	1	2	7.1	13.3	3	3	4.6	5.4	9	6.0
Other Disease or Defect	1	—	7.1	—	—	—	—	—	1	0.6
Unvaccinated	5	5	35.7	33.3	29	27	45.3	49.0	66	44.6
Mother goes out to work	—	—	—	—	—	4	—	7.2	4	2.6
Free from classified defect excluding defective teeth	4	2	28.5	13.3	22	17	34.3	30.9	45	30.4
Total number examined	14	15			64	55			148	

ST. MARY'S R. C. SCHOOL.

DEFECTS FOUND.	1st Examination.				4th. Examination.				Totals.	
	No. found		ratio %		No. found		ratio %		No.	%
	B	G	B	G	B	G	B	G		
Clothing	2	3	11.7	11.1	10	5	23.2	13.8	20	16.2
Nutrition	1	4	5.8	14.8	6	7	13.9	19.4	18	14.6
Verminous Head	1	11	5.8	40.7	2	7	4.6	19.4	21	17.0
Cleanliness	3	8	17.6	29.6	7	11	16.2	30.5	29	23.5
Adenoids	—	—	—	—	1	—	2.3	—	1	0.8
Enlarged Tonsils	—	—	—	—	3	1	6.9	2.7	4	3.2
Enlarged Glands	—	2	—	7.4	3	5	6.9	13.8	10	8.1
Teeth all good	9	6	52.9	22.2	2	4	4.6	11.1	21	17.0
" 1-4 defective	1	11	5.8	40.7	23	21	53.4	58.3	56	45.5
" 4-9	5	10	29.4	37.0	18	11	41.8	30.5	44	35.7
" all	2	—	11.7	—	—	—	—	—	2	1.6
External Eye Disease	—	1	—	3.7	3	5	6.9	13.8	9	7.3
Defective Sight	—	—	—	—	5	8	11.6	22.2	13	16.4
Defective Speech	2	—	11.7	—	—	3	—	8.3	5	4.0
Ear Disease	—	1	—	3.7	5	—	11.6	—	6	4.8
Defective Hearing	—	1	—	3.7	6	2	13.9	5.5	9	7.3
Mental Condition										
Backward	2	—	11.7	—	3	7	6.9	19.4	12	9.7
Defective	—	—	—	—	—	1	—	2.7	1	0.8
Disease of Heart	—	—	—	—	—	—	—	—	—	—
" Lungs	—	—	—	—	—	—	—	—	—	—
" Nervous System	—	—	—	—	—	—	—	—	—	—
Tuberculosis										
Pulmonary	—	—	—	—	—	—	—	—	—	—
Osseous	—	—	—	—	—	—	—	—	—	—
Glands	—	—	—	—	—	—	—	—	—	—
Rickets	—	3	—	11.1	—	—	—	—	3	2.4
Deformities	—	4	—	14.8	2	—	4.6	—	6	4.8
Skin Disease	1	1	5.8	3.7	1	2	2.3	5.5	5	4.0
Infectious or Contagious Diseases	1	—	5.8	—	—	1	—	2.7	2	1.6
Other Disease or Defect	—	—	—	—	—	3	—	8.3	3	2.4
Unvaccinated	5	6	29.4	22.2	19	24	44.1	66.6	54	43.9
Mother goes out to work	10	10	58.8	37.0	15	16	34.8	44.4	51	41.4
Free from classified defect excluding defective teeth	11	13	64.7	48.1	7	12	16.2	33.3	43	34.9
Total number examined	17	27			43	36			123	

PARISH CHURCH SCHOOL.

DEFECTS FOUND.	1st Examination.				4th Examination.				Totals.	
	No. found		ratio %		No. found		ratio %		No.	%
	B	G	B	G	B	G	B	G		
Clothing ...	1	—	5.8	—	3	1	10.0	2.5	5	4.4
Nutrition ...	7	4	41.1	14.8	3	2	10.0	5.1	16	14.1
Verminous Head ...	—	—	—	—	1	—	3.3	—	1	0.8
Cleanliness ...	1	3	5.8	11.1	2	—	6.6	—	6	5.3
Adenoids ...	2	—	11.7	—	—	—	—	—	2	1.7
Enlarged Tonsils ...	2	1	11.7	3.7	—	1	—	2.5	4	3.5
Enlarged Glands ...	1	4	5.8	14.8	—	—	—	—	5	4.4
Teeth all good ...	2	6	11.7	22.2	1	3	3.3	7.6	12	10.6
„ 1-4 defective ...	8	14	47.0	51.8	15	14	50.0	35.8	51	45.1
„ 4-9 „ ...	5	6	29.4	22.2	14	20	46.6	51.2	45	39.8
„ all „ ...	2	1	11.7	3.7	—	2	—	5.1	5	4.4
External Eye Disease ...	—	2	—	7.4	1	1	3.3	2.5	4	3.5
Defective Sight ...	—	—	—	—	6	8	20.0	20.5	14	20.3
Defective Speech ...	1	1	5.8	3.7	1	1	3.3	2.5	4	3.5
Ear Disease ...	2	—	11.7	—	1	1	3.3	2.5	4	3.5
Defective Hearing ...	1	1	5.8	3.7	4	1	13.3	2.5	7	6.1
Mental Condition ...										
Backward ...	1	—	5.8	—	3	1	10.0	2.5	5	4.4
Defective ...	—	—	—	—	—	—	—	—	—	—
Disease of Heart ...	—	—	—	—	2	4	6.6	10.2	6	5.3
„ Lungs ...	2	3	11.7	11.1	—	—	—	—	5	4.4
„ Nervous System ...	—	—	—	—	—	—	—	—	—	—
Tuberculosis ...										
Pulmonary ...	—	—	—	—	—	—	—	—	—	—
Osseous ...	—	—	—	—	—	—	—	—	—	—
Glands ...	—	—	—	—	—	—	—	—	—	—
Rickets ...	3	2	17.6	7.4	5	1	16.6	2.5	11	9.7
Deformities ...	3	2	17.6	7.4	5	1	16.6	2.5	11	9.7
Skin Disease ...	1	2	5.8	7.4	—	—	—	—	3	2.6
Infectious or Con- tagious Disease ...	—	1	—	3.7	1	—	3.3	—	2	1.7
Other Diseases or De- fects ...	1	—	5.8	—	3	—	10.0	—	4	3.5
Unvaccinated ...	6	5	35.2	18.5	6	9	20.0	23.0	26	23.0
Mother goes out to work ...	1	2	5.8	7.4	5	4	16.6	10.2	12	10.6
Free from classified defect excluding defective Teeth ...	6	17	35.2	62.9	9	22	30.0	56.4	54	47.7
Total number ex- amined ...	17	27			30	39			113	

STAINCLIFFE SCHOOL.

DEFECTS FOUND.	1st Examination.				4th Examination.				Totals.	
	No. found.		ratio %		No. found.		ratio %		No.	%
	B	G	B	G	B	G	B	G		
Clothing ...	—	—	—	—	2	4	8.3	12.9	6	6.6
Nutrition ...	1	3	7.6	13.6	4	11	16.6	35.4	19	21.1
Vermineous Head ...	1	3	7.6	13.6	—	2	—	6.4	6	6.6
Cleanliness ...	—	1	—	4.5	2	6	8.3	19.3	9	9.9
Adenoids ...	—	—	—	—	—	1	—	3.2	1	1.1
Enlarged Tonsils ...	—	1	—	4.5	5	2	20.8	6.4	8	8.8
Enlarged Glands ...	2	—	15.3	—	—	3	—	9.6	5	5.5
Teeth all good ...	3	8	23.0	36.3	1	1	4.1	3.2	13	14.4
„ 1-4 defective ...	4	8	30.7	36.3	13	22	54.1	70.9	47	52.2
„ 4-9 defective ...	5	6	38.4	27.2	10	8	41.6	25.8	29	32.2
„ all „ „ ...	1	—	7.6	—	—	—	—	—	1	1.1
External Eye Disease ...	—	1	—	4.5	1	3	4.1	9.6	5	5.5
Defective Sight ...	—	—	—	—	27	33	21.9	24.0	*60	23.3
Defective Speech ...	1	—	7.6	—	1	3	4.1	9.6	5	5.5
Ear Disease ...	—	—	—	—	—	4	—	12.9	4	4.4
Defective Hearing ...	—	—	—	—	—	6	—	19.3	6	6.6
Mental Condition										
Backward ...	—	—	—	—	2	3	8.3	9.6	5	5.5
Defective ...	1	—	7.6	—	—	—	—	—	1	1.1
Disease of Heart ...	1	1	7.6	4.5	—	3	—	9.6	5	5.5
„ Lungs ...	—	—	—	—	—	—	—	—	—	—
„ Nervous System ...	—	—	—	—	—	—	—	—	—	—
Tuberculosis										
Pulmonary ...	—	—	—	—	—	—	—	—	—	—
Osseous ...	—	—	—	—	—	—	—	—	—	—
Glands ...	—	—	—	—	—	—	—	—	—	—
Rickets ...	3	2	23.0	9.0	—	1	—	3.2	6	6.6
Deformities ...	3	2	23.0	9.0	2	2	8.3	6.4	9	9.9
Skin Disease ...	1	—	7.6	—	1	1	4.1	3.2	3	3.3
Infectious or Con- tagious Disease ...	1	2	7.6	9.0	—	—	—	—	3	3.3
Other Disease or De- fect ...	—	—	—	—	2	2	8.3	6.4	4	4.4
Unvaccinated ...	6	9	46.1	40.9	9	14	37.5	45.1	38	42.2
Mother goes out to work ...	1	3	7.6	13.6	1	2	4.1	6.4	7	7.7
Free from classified defect excluding defective teeth ...	5	12	38.4	54.5	10	10	41.6	32.2	37	41.1
Total number ex- amined ...	13	22			24	31			90	

* These figures represent all the children aged seven years or over in the school.

HEALEY SCHOOL.

DEFECTS FOUND.	1st Examination.				4th Examination.				Totals.	
	No. found.		ratio %		No. found.		ratio %		No.	%
	B	G	B	G	B	G	B	G		
Clothing ...	1	2	4.7	8.0	1	0	4.5	—	4	3.9
Nutrition ...	3	1	14.2	4.0	3	2	13.6	6.0	9	8.9
Vermineous Head ...	1	5	4.7	20.0	—	2	—	6.0	8	7.9
Cleanliness ...	1	3	4.7	12.0	—	3	—	9.0	7	6.9
Adenoids ...	—	—	—	—	—	1	—	3.0	1	0.9
Enlarged Tonsils ...	2	4	9.5	16.0	1	4	4.5	12.1	11	10.8
Enlarged Glands ...	1	1	4.7	4.0	—	1	—	3.0	3	2.9
Teeth all good ...	9	4	42.8	16.0	2	3	9.0	9.0	18	17.8
„ 1-4 defective ...	5	6	22.8	24.0	11	21	50.0	63.6	43	42.5
„ 4-9 „ ...	5	13	22.8	52.0	9	9	40.9	27.2	36	35.6
„ all „ ...	2	2	9.5	8.0	—	—	—	—	4	3.9
External Eye Disease	2	1	9.5	4.0	—	5	—	15.1	8	7.9
Defective Sight ...	—	—	—	—	3	4	13.6	12.1	7	12.7
Defective Speech ...	1	—	4.7	—	—	—	—	—	1	0.9
Ear Disease ...	—	1	—	4.0	—	3	—	9.0	4	3.9
Defective Hearing ...	1	2	4.7	8.0	—	—	—	—	3	2.9
Mental Condition ...	—	—	—	—	—	—	—	—	—	—
Backward ...	—	—	—	—	—	—	—	—	—	—
Defective ...	1	—	4.7	—	—	—	—	—	1	0.9
Disease of Heart ...	—	—	—	—	—	—	—	—	—	—
„ Lungs ...	1	2	4.7	8.0	—	—	—	—	3	2.9
„ Nervous System	—	—	—	—	—	1	—	3.0	1	0.9
Tuberculosis ...	—	—	—	—	—	—	—	—	—	—
Pulmonary ...	—	—	—	—	—	—	—	—	—	—
Osseous ...	—	—	—	—	—	—	—	—	—	—
Glands ...	—	1	—	4.0	1	—	4.5	—	2	1.9
Rickets ...	1	2	4.7	8.0	—	—	—	—	3	2.9
Deformities ...	2	4	9.5	16.0	1	1	4.5	3.0	8	7.9
Skin Disease ...	—	1	—	4.0	1	—	4.5	—	2	1.9
Infectious or Con- tagious Disease ...	4	2	19.0	8.0	—	—	—	—	6	5.9
Other Disease or de- fect ...	—	1	—	4.0	—	—	—	—	1	0.9
Unvaccinated ...	6	3	28.5	12.0	11	11	50.0	33.3	31	30.6
Mother goes out to work ...	2	3	9.5	12.0	3	3	13.6	9.0	11	10.8
Free from classified defect excluding defective teeth ...	12	13	57.1	52.0	12	15	54.5	45.4	52	51.4
Total number ex- amined ...	21	25			22	33			101	

PURLWELL SCHOOL.

DEFECTS FOUND.	1st examination.				4th Examination.				Totals.	
	No. found.		ratio %		No. found.		ratio %		No.	%
	B	G	B	G	B	G	B	G		
Clothing ...	—	1	—	3.1	2	5	4.0	10.0	8	4.5
Nutrition ...	7	2	16.2	6.2	5	6	10.2	12.0	20	11.4
Verminous Head ...	—	4	—	12.5	2	1	4.0	2.0	7	4.0
Cleanliness ...	2	4	4.6	12.5	7	10	14.2	20.0	23	13.2
Adenoids ...	2	—	4.6	—	1	—	2.0	—	3	1.7
Enlarged Tonsils ...	1	5	2.3	15.6	5	9	10.2	18.0	20	11.4
Enlarged Glands ...	1	—	2.3	—	1	1	2.0	2.0	3	1.7
Teeth all good ...	8	7	18.6	21.8	3	2	6.1	4.0	20	11.4
" 1-4 defective ...	13	15	30.2	46.8	20	32	40.8	64.0	80	45.9
" 4-9 " ...	18	8	41.8	25.0	26	15	53.0	30.0	67	38.5
" all " ...	4	2	9.3	6.2	—	1	—	2.0	7	4.0
External Eye Diseases	2	2	4.6	6.2	2	—	4.0	—	6	3.4
Defective Sight	—	—	—	—	9	10	18.3	20.0	19	19.1
Defective Speech ...	—	—	—	—	2	1	4.0	2.0	3	1.7
Ear Disease ...	1	4	2.3	12.5	2	3	4.0	6.0	10	5.7
Defective Hearing ...	1	5	2.3	15.6	3	6	6.1	12.0	15	8.6
Mental Condition										
Backward ...	2	—	4.6	—	3	13	6.1	26.0	18	10.3
Defective ...	—	—	—	—	—	1	—	2.0	1	0.5
Disease of Heart ...	1	—	2.3	—	3	3	6.1	6.0	7	4.0
" Lungs ...	3	1	6.9	3.1	1	—	2.0	—	5	2.8
" Nervous System	—	—	—	—	—	1	—	2.0	1	0.5
Tuberculosis										
Pulmonary ...	—	—	—	—	—	—	—	—	—	—
Osseous ...	—	—	—	—	1	—	2.0	—	1	0.5
Glands ...	—	—	—	—	—	—	—	—	—	—
Rickets ...	7	2	16.2	6.2	1	—	2.0	—	10	5.7
Deformities ...	7	3	16.2	9.3	4	—	8.1	—	14	8.0
Skin Diseases ...	4	3	9.3	9.3	3	2	6.1	4.0	12	6.8
Infectious or Con- tagious Diseases	1	—	2.3	—	1	1	2.0	2.0	3	1.7
Other Disease or De- fect	—	—	—	—	2	—	4.0	—	2	1.1
Unvaccinated ...	7	8	16.2	25.0	28	27	57.1	54.0	70	40.2
Mother goes out to work	5	5	11.6	15.6	7	6	14.2	12.0	23	13.2
Free from classified defect excluding defective teeth	25	16	58.1	50.0	22	19	44.8	38.0	82	47.1
Total number ex- amined	43	32			49	50			174	

FIELD LANE SCHOOL.

DEFECTS FOUND.	1st Examination.				Totals.	
	No. found.		ratio %		No.	%
	B	G	B	G		
Clothing ...	3	—	13.0	—	3	6.8
Nutrition ...	5	2	21.7	9.5	7	15.9
Verminous Head ...	—	1	—	4.7	1	2.2
Cleanliness ...	3	7	13.0	33.3	10	22.7
Adenoids ...	1	—	4.3	—	1	2.2
Enlarged Tonsils ...	4	3	17.3	14.2	7	15.9
Enlarged Glands ...	2	2	8.6	9.5	4	9.0
Teeth all good ...	7	5	30.4	23.8	12	27.2
„ 1-4 defective ...	9	8	39.0	38.0	17	38.6
„ 4-9 „ ...	6	8	26.0	38.0	14	31.8
„ all „ ...	1	—	4.3	—	1	2.2
External Eye Disease	1	1	4.3	4.7	2	4.5
Defective Sight ...	—	—	—	—	—	—
Defective Speech ...	—	—	—	—	—	—
Ear Disease ...	1	1	4.3	4.7	2	4.5
Defective Hearing ...	1	—	4.3	—	1	2.2
Mental Condition						
Backward ...	1	—	4.3	—	1	2.2
Defective ...	—	—	—	—	—	—
Disease of Heart ...	—	—	—	—	—	—
„ Lungs ...	1	—	4.3	—	1	2.2
„ Nervous System	—	—	—	—	—	—
Tuberculosis						
Pulmonary ...	—	—	—	—	—	—
Osseous ...	1	—	4.3	—	1	2.2
Glands ...	—	—	—	—	—	—
Rickets ...	4	1	17.3	4.7	5	11.3
Deformities ...	5	1	21.7	4.7	6	13.6
Skin Disease ...	—	1	—	4.7	1	2.2
Infectious or Con- tagious Disease ...	1	2	4.3	9.5	3	6.8
Other Disease or De- fect ...	1	1	4.3	4.7	2	4.5
Unvaccinated ...	5	5	21.7	23.8	10	22.7
Mother goes out to work ...	5	4	21.7	19.0	9	20.4
Free from classified defect excluding defective teeth ...	12	8	52.1	38.0	20	45.4
Total number ex- amined ...	23	21			44	

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BOROUGH OF BATTLEY.

CAUSES OF DEATH AT DIFFERENT AGE PERIODS OF RESIDENTS DURING THE YEAR 1908.

CAUSES OF DEATH AND DISEASES.	AGES.																		WARDS.			
																			Total	North	East	West
	Males	Females	0 to 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 to 75	75 to 85	85 and up				
GENERAL DISEASES.																						
all Pox	6	7	6	5	1	1													13 10 1 2			
icken Pox																			1 1 1			
asles																						
riplet Fever																			7 5 2 1			
plus Fever	1	6	2	3	1	1	1												7 4 2 1			
looping Cough	4	3						3											4 3 1 1			
teric Fever	4	9																	14 7 3 4			
htheria. Membranous Croup	5	9																	23 12 13			
luenza	27	21	38	5	1	1													48			
idemic Diarrhea																						
sentery																						
nders																						
thrax																						
tanus																						
philis																						
bercular Phthisis	21	12	1	1	3			3	1	1	2	8	8	3	3	2			33 8 14 11			
bercular Meningitis	1	6						2											7 5 1 1			
bercular Peritonitis	4	4	1	2	1	1		1	1										8 1 4 3			
aeral Tuberculosis	3	3		1								1	1		1				6 2 1 3			
Septicemia																			1 1			
yperal } Pyemia																						
yperal } Fever																						
active Endocarditis																						
risipelas	1	2			2														3 2 1			
iticemia (not puerperal)																			1 1			
emia (not puerperal)																						
umatic Fever. Acute Rheumatism.																						
umatic Arthritis. Gout.																						
cinoma	16	27																	43 17 14 12			
rets	4	2	1	4															6 2 3 1			
para																						
betes Mellitus	3	3																	6 2 1 3			
emia																						
coccythemia																						
nophilia																						
holism																						
l Poisoning	1																		1 1			
aine Poisoning	1																					
DEVELOPMENTAL DISEASES.																						
nature Birth	9	13	22																22 10 11 1			
genital Defects	5	4	9																9 6 2 1			
ry at Birth																						
ectasis	3	2	5																5 4 1			
phy. Debility. Marasmus	7	5	12																12 7 3 2			
t of Breast Milk			1																1 1			
lung																						
Age	15	13																	28 8 13 7			
RVOUS SYSTEM DISEASES																						
mmation of Brain. Meningitis.	1																		1 1			
motor Ataxia																						
ral Paralysis of the Insane																						
ea																						
psy																						
ulsions	10	7	13																1 1			
use of Spine																						
ar Paralysis	1																					
bro-Spinal Meningitis																						
ngismus Stridulus	1		1																1 1			
r Diseases of the Brain	1	3																	4 1 3			
CULATORY SYSTEM DISEASES.																						
carditis	19	22																	41 17 16 8			
ocarditis	6	7																	13 4 5 1			
carditis	1	1																	2 1			
ina Pectoris																						
urism	1																		1 1			
ombosis. Embolism	1	4																	5 2 1			
orrhage																						
erio Sclerosis	1	1																	1 1			
ebraal Apoplexy. Hemorrhage	10	18	1										</									

